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No. 4,284 83rd YEAR

THURSDAY, AUGUST 3, 1961

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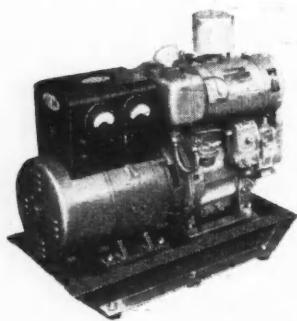
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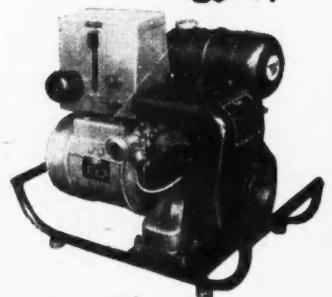


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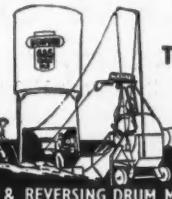
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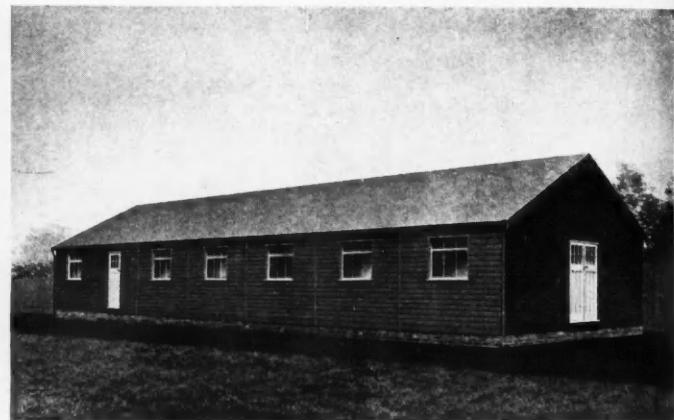
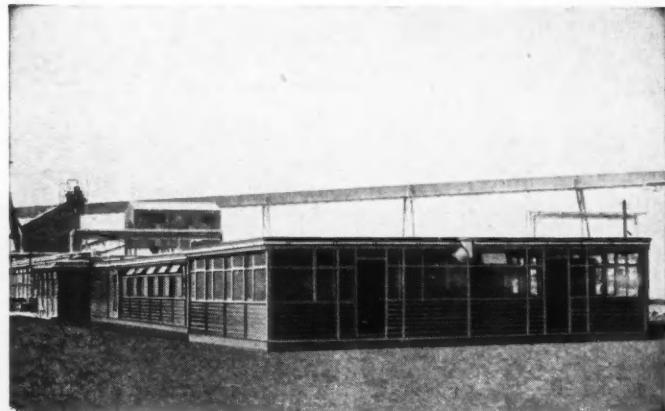
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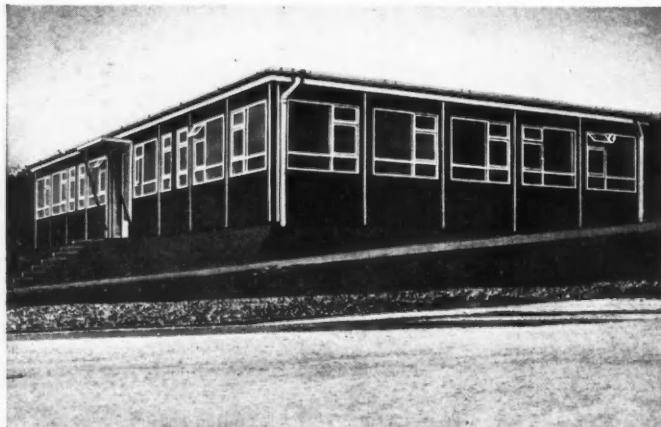
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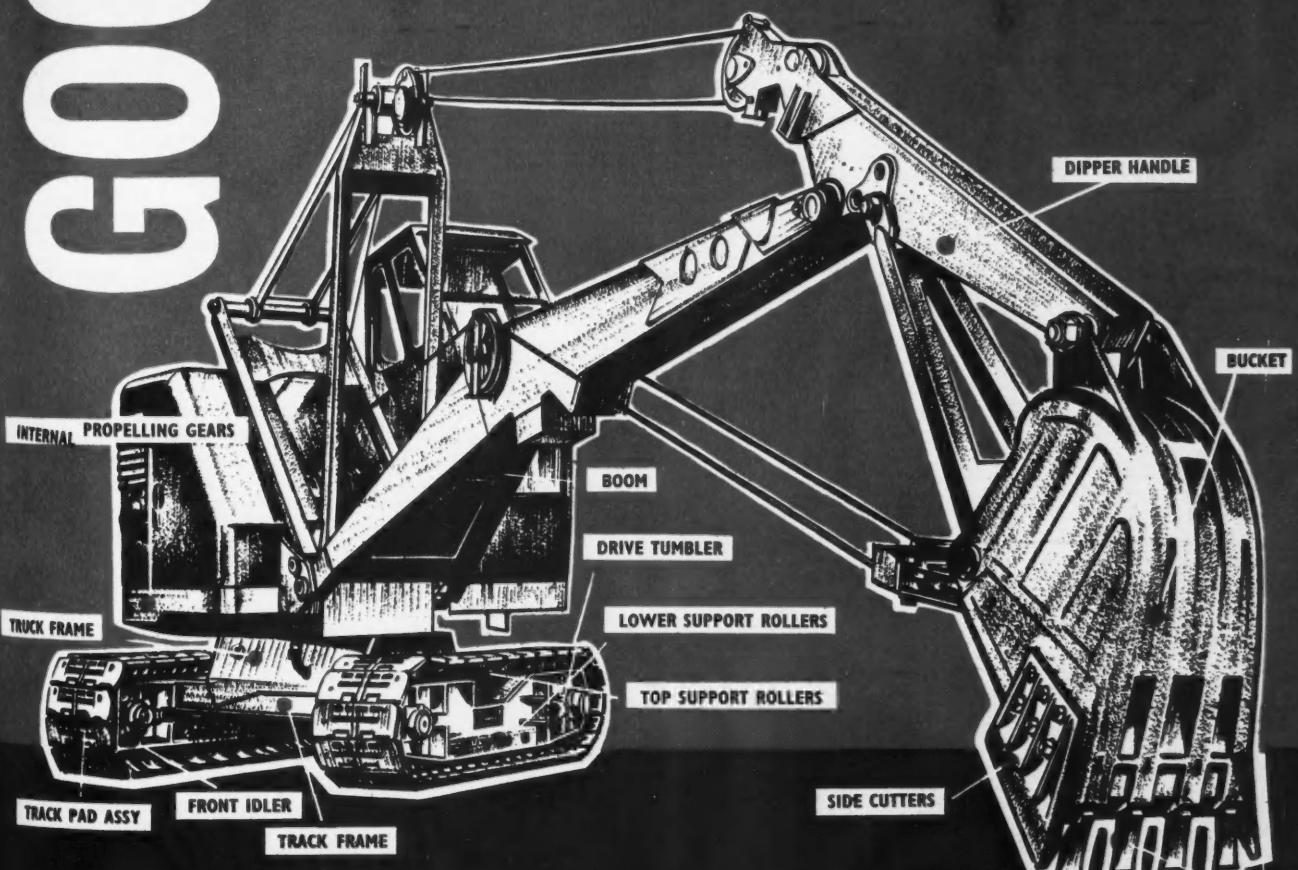
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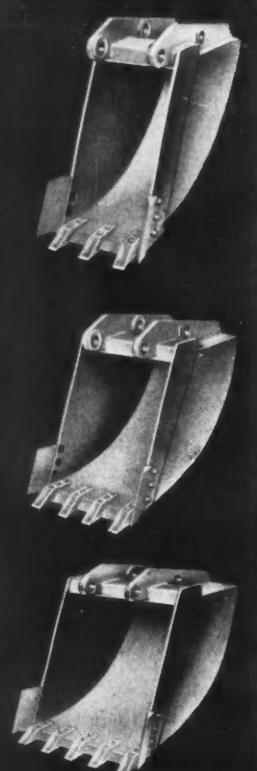
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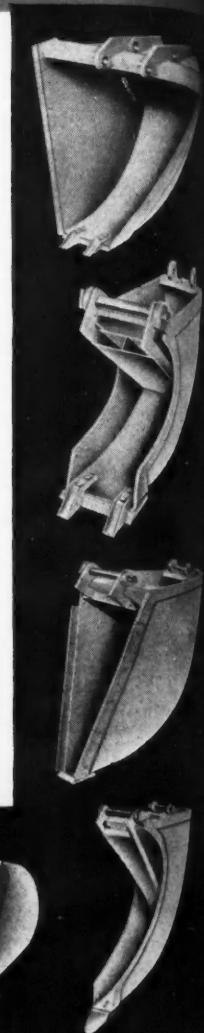
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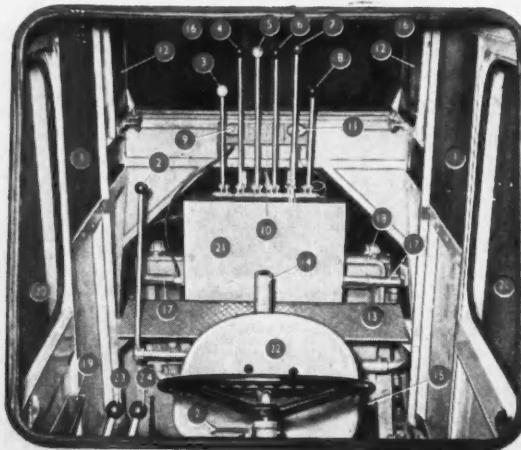
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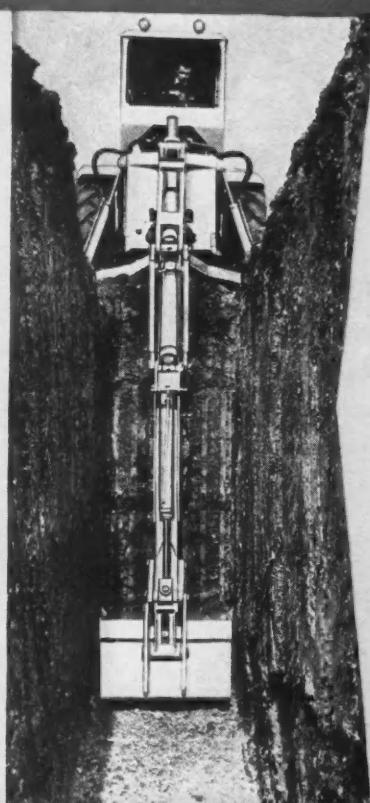
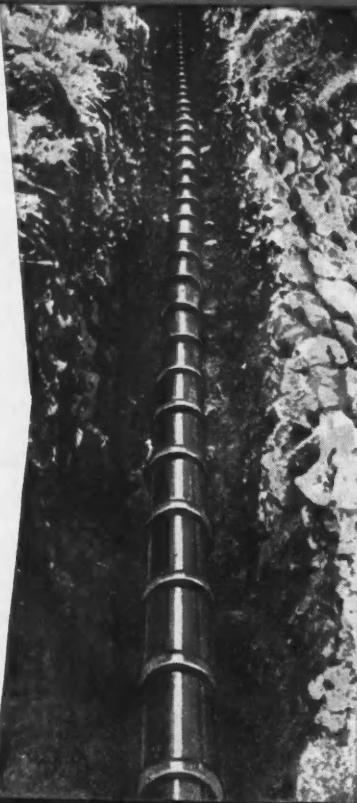
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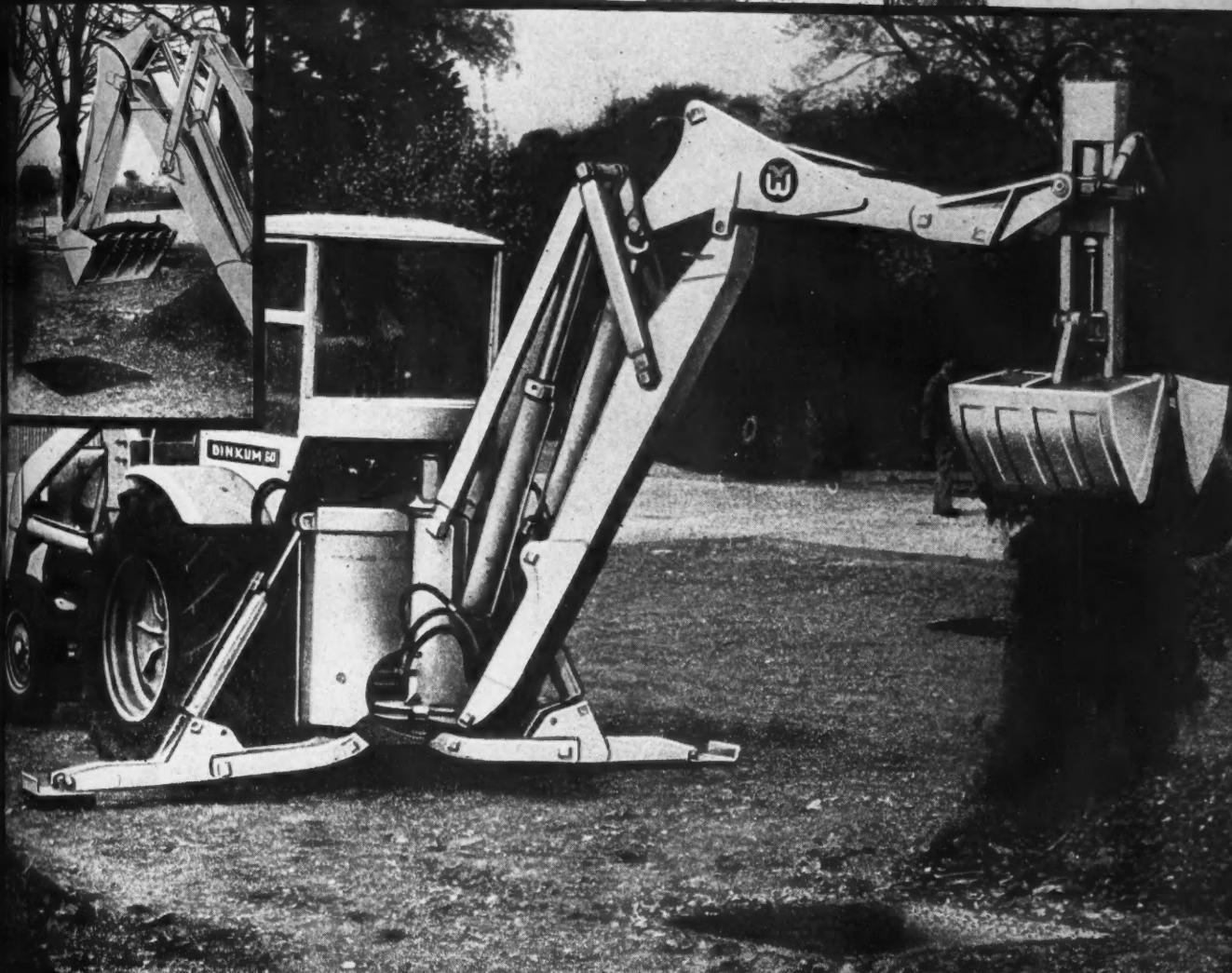
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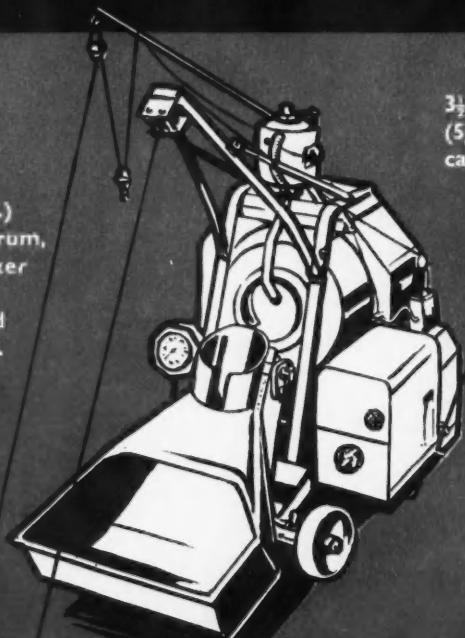


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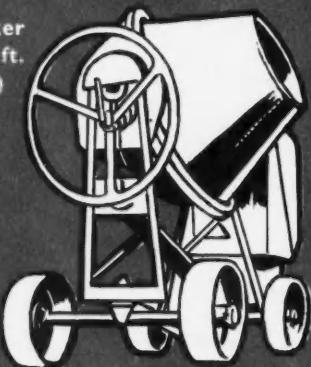
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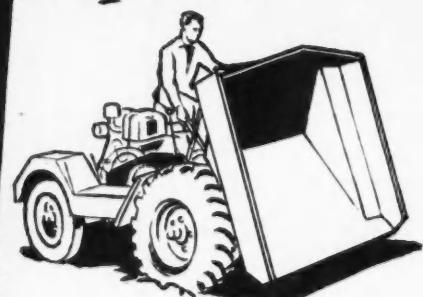
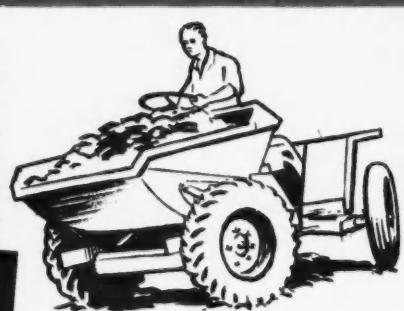
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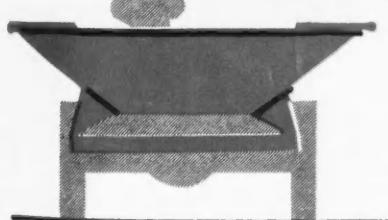


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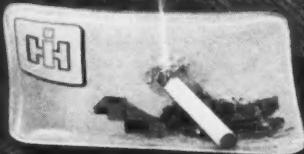
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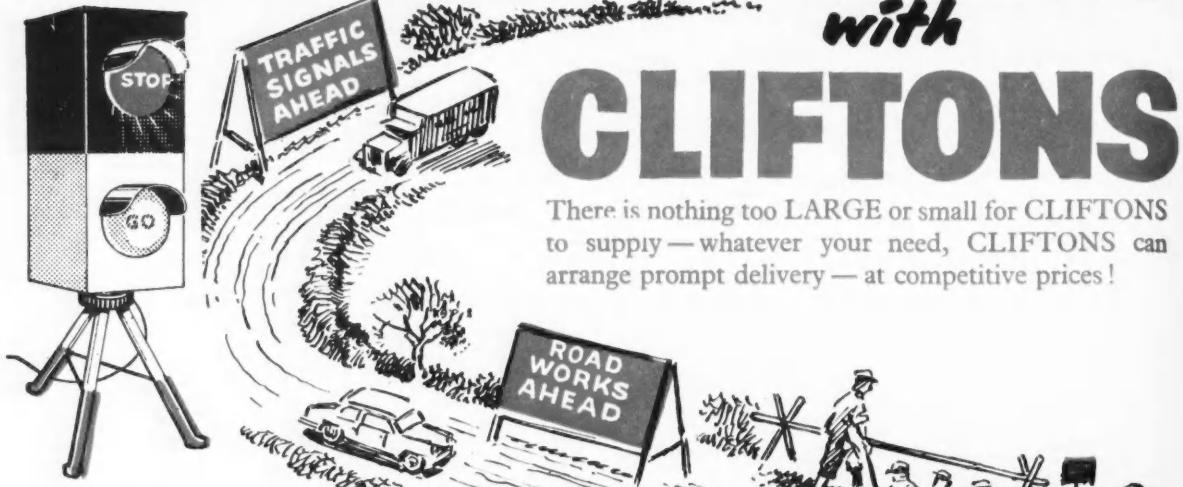
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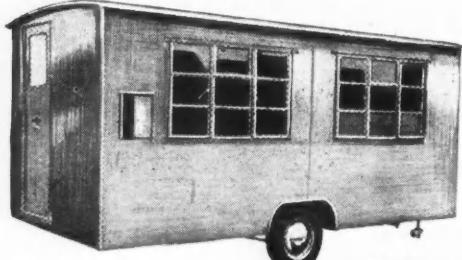
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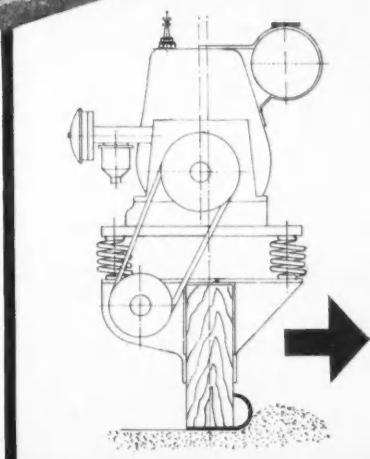
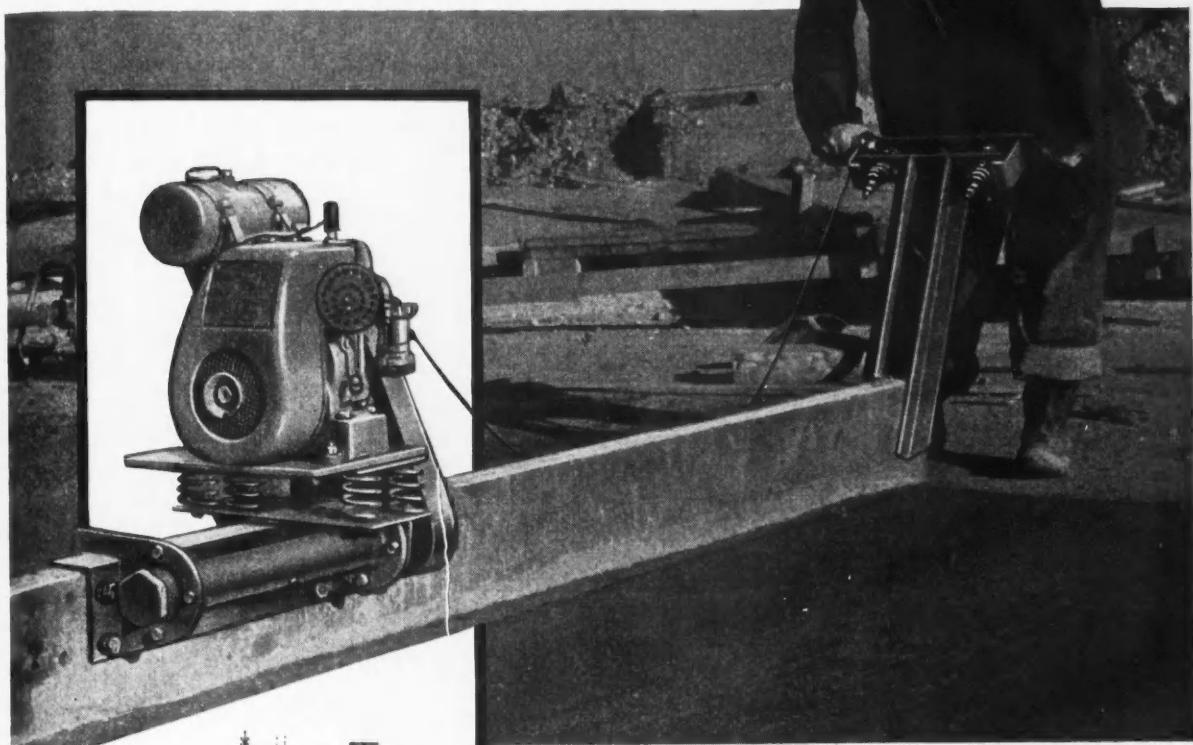
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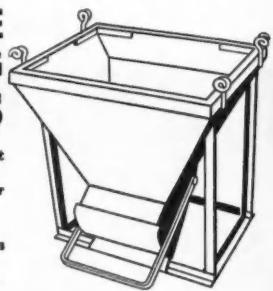
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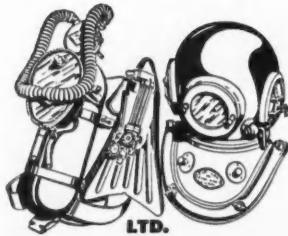
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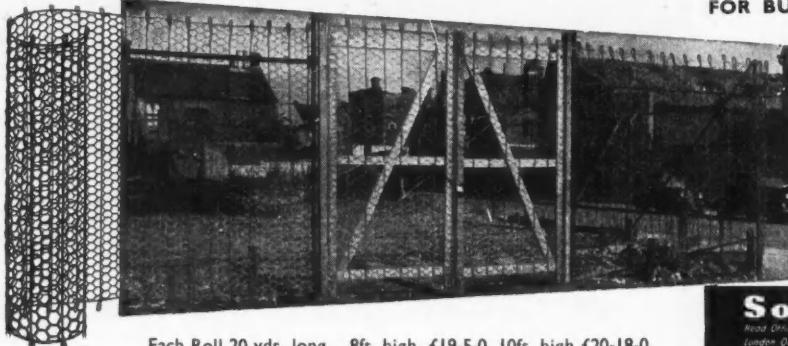
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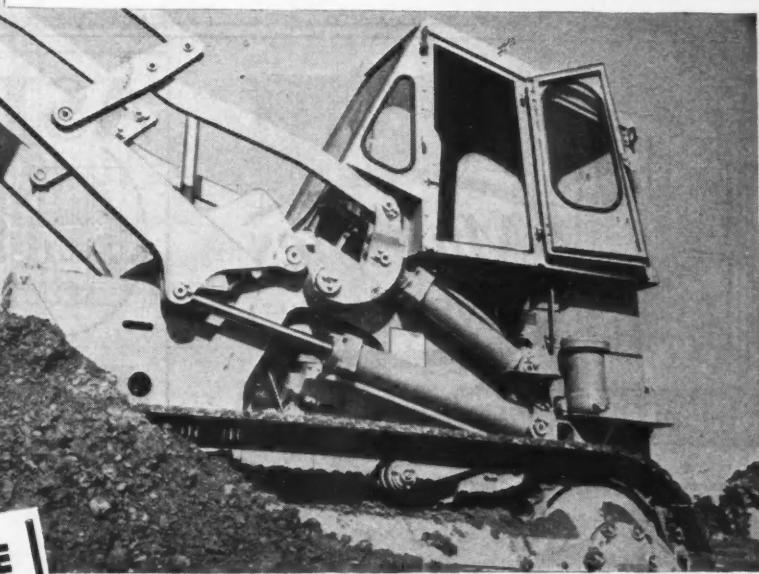
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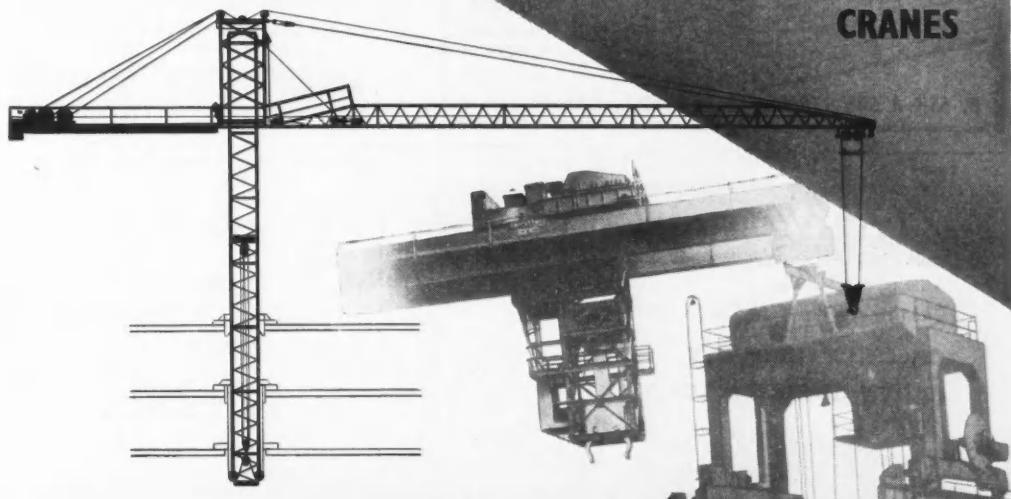
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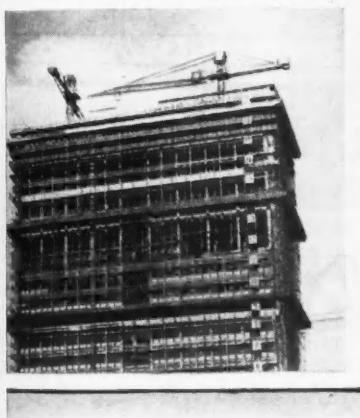
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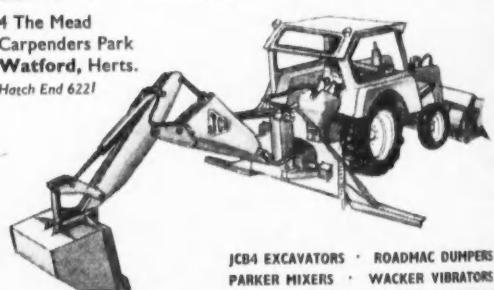
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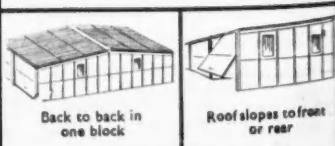
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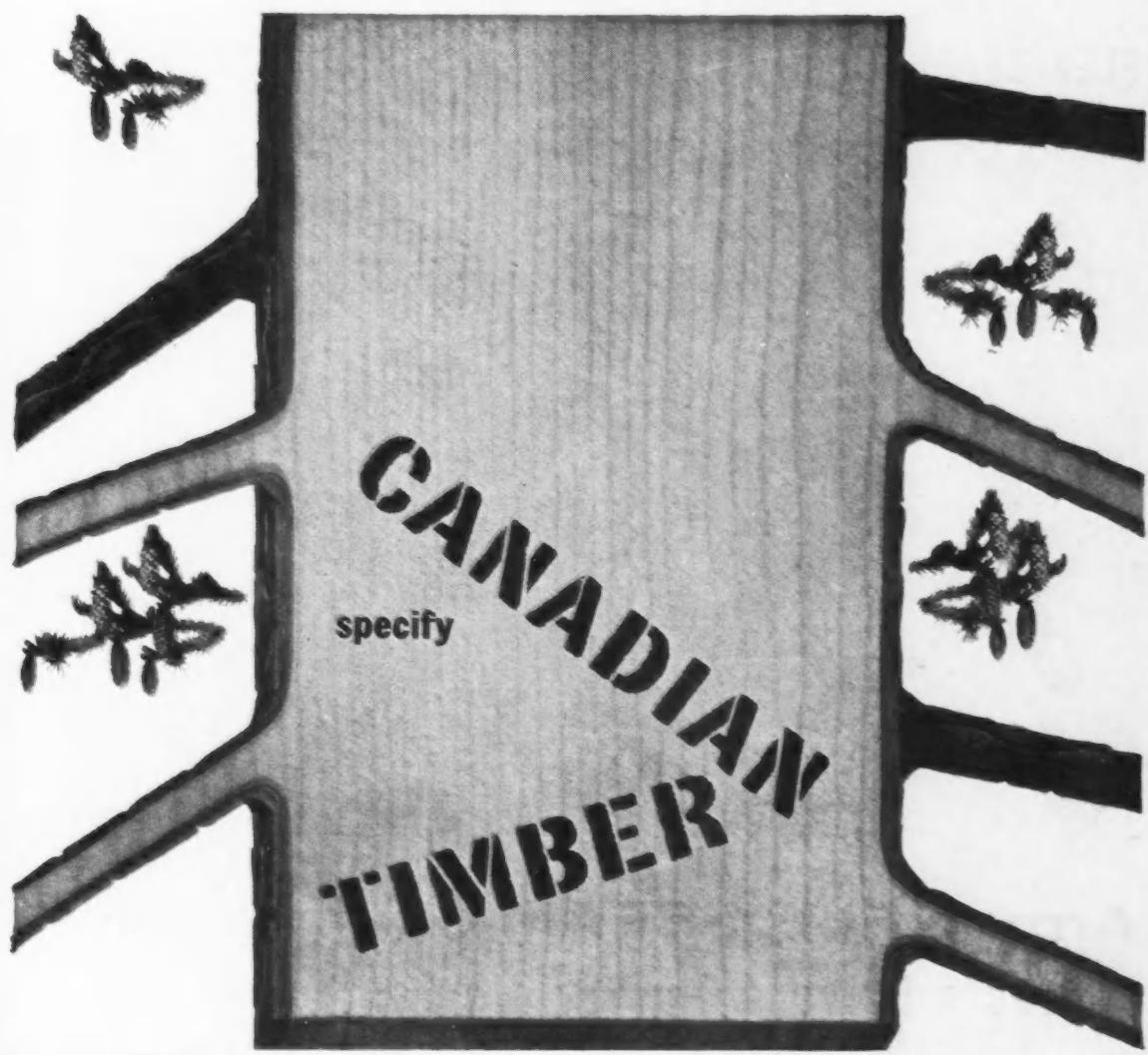
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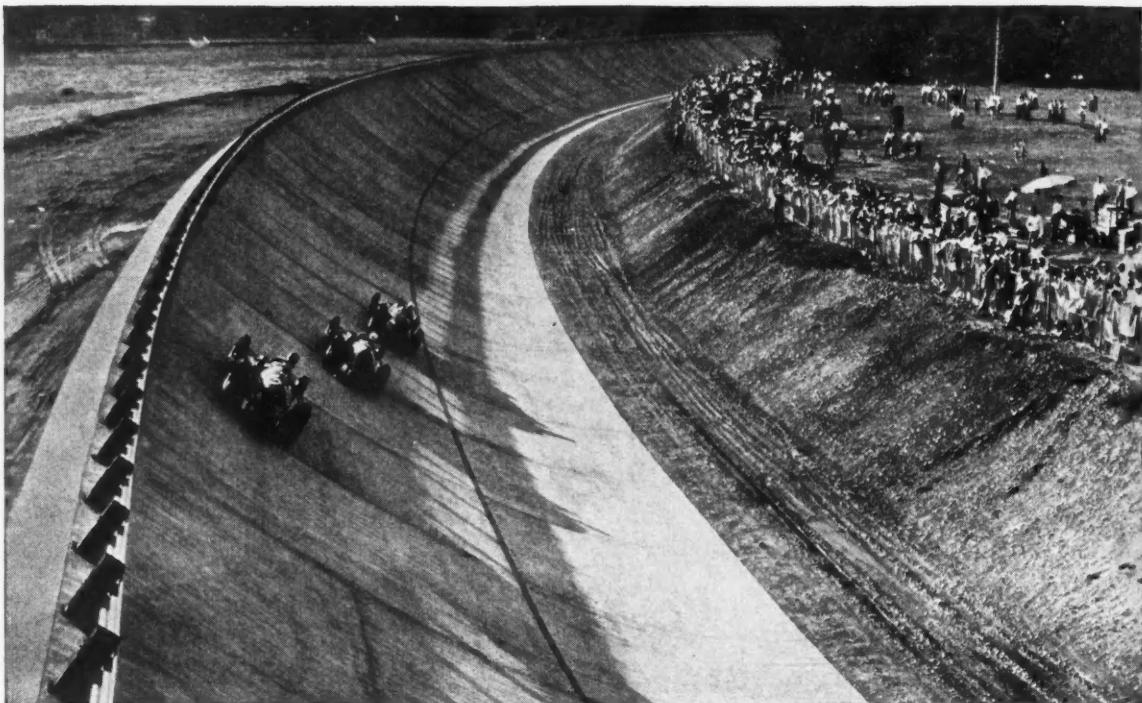
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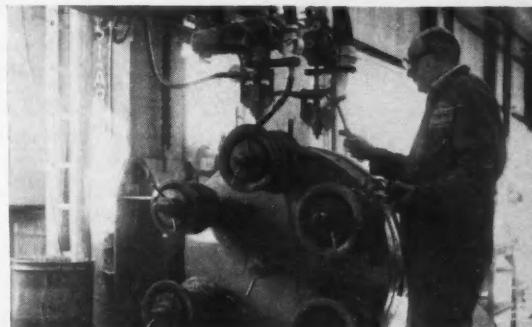
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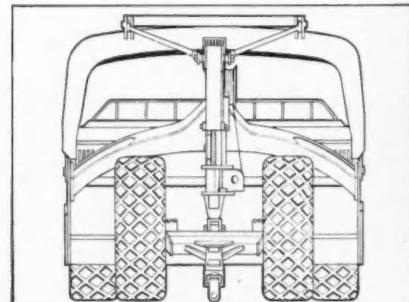
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1385ft. 1395ft. 1405ft. 1415ft. 1425ft. 1435ft. 1445ft. 1455ft. 1465ft. 1475ft. 1485ft. 1495ft. 1505ft. 1515ft. 1525ft. 1535ft. 1545ft. 1555ft. 1565ft. 1575ft. 1585ft. 1595ft. 1605ft. 1615ft. 1625ft. 1635ft. 1645ft. 1655ft. 1665ft. 1675ft. 1685ft. 1695ft. 1705ft. 1715ft. 1725ft. 1735ft. 1745ft. 1755ft. 1765ft. 1775ft. 1785ft. 1795ft. 1805ft. 1815ft. 1825ft. 1835ft. 1845ft. 1855ft. 1865ft. 1875ft. 1885ft. 1895ft. 1905ft. 1915ft. 1925ft. 1935ft. 1945ft. 1955ft. 1965ft. 1975ft. 1985ft. 1995ft. 2005ft. 2015ft. 2025ft. 2035ft. 2045ft. 2055ft. 2065ft. 2075ft. 2085ft. 2095ft. 2105ft. 2115ft. 2125ft. 2135ft. 2145ft. 2155ft. 2165ft. 2175ft. 2185ft. 2195ft. 2205ft. 2215ft. 2225ft. 2235ft. 2245ft. 2255ft. 2265ft. 2275ft. 2285ft. 2295ft. 2305ft. 2315ft. 2325ft. 2335ft. 2345ft. 2355ft. 2365ft. 2375ft. 2385ft. 2395ft. 2405ft. 2415ft. 2425ft. 2435ft. 2445ft. 2455ft. 2465ft. 2475ft. 2485ft. 2495ft. 2505ft. 2515ft. 2525ft. 2535ft. 2545ft. 2555ft. 2565ft. 2575ft. 2585ft. 2595ft. 2605ft. 2615ft. 2625ft. 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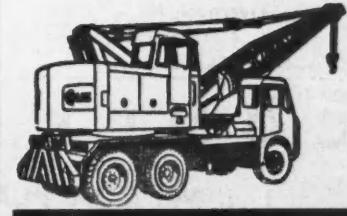
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592ft. 594ft. 596ft. 598ft. 600ft. 602ft. 604ft. 606ft. 608ft. 610ft. 612ft. 614ft. 616ft. 618ft. 620ft. 622ft. 624ft. 626ft. 628ft. 630ft. 632ft. 634ft. 636ft. 638ft. 640ft. 642ft. 644ft. 646ft. 648ft. 650ft. 652ft. 654ft. 656ft. 658ft. 660ft. 662ft. 664ft. 666ft. 668ft. 670ft. 672ft. 674ft. 676ft. 678ft. 680ft. 682ft. 684ft. 686ft. 688ft. 690ft. 692ft. 694ft. 696ft. 698ft. 700ft. 702ft. 704ft. 706ft. 708ft. 710ft. 712ft. 714ft. 716ft. 718ft. 720ft. 722ft. 724ft. 726ft. 728ft. 730ft. 732ft. 734ft. 736ft. 738ft. 740ft. 742ft. 744ft. 746ft. 748ft. 750ft. 752ft. 754ft. 756ft. 758ft. 760ft. 762ft. 764ft. 766ft. 768ft. 770ft. 772ft. 774ft. 776ft. 778ft. 780ft. 782ft. 784ft. 786ft. 788ft. 790ft. 792ft. 794ft. 796ft. 798ft. 800ft. 802ft. 804ft. 806ft. 808ft. 810ft. 812ft. 814ft. 816ft. 818ft. 820ft. 822ft. 824ft. 826ft. 828ft. 830ft. 832ft. 834ft. 836ft. 838ft. 840ft. 842ft. 844ft. 846ft. 848ft. 850ft. 852ft. 854ft. 856ft. 858ft. 860ft. 862ft. 864ft. 866ft. 868ft. 870ft. 872ft. 874ft. 876ft. 878ft. 880ft. 882ft. 884ft. 886ft. 888ft. 890ft. 892ft. 894ft. 896ft. 898ft. 900ft. 902ft. 904ft. 906ft. 908ft. 910ft. 912ft. 914ft. 916ft. 918ft. 920ft. 922ft. 924ft. 926ft. 928ft. 930ft. 932ft. 934ft. 936ft. 938ft. 940ft. 942ft. 944ft. 946ft. 948ft. 950ft. 952ft. 954ft. 956ft. 958ft. 960ft. 962ft. 964ft. 966ft. 968ft. 970ft. 972ft. 974ft. 976ft. 978ft. 980ft. 982ft. 984ft. 986ft. 988ft. 990ft. 992ft. 994ft. 996ft. 998ft. 1000ft. 1002ft. 1004ft. 1006ft. 1008ft. 1010ft. 1012ft. 1014ft. 1016ft. 1018ft. 1020ft. 1022ft. 1024ft. 1026ft. 1028ft. 1030ft. 1032ft. 1034ft. 1036ft. 1038ft. 1040ft. 1042ft. 1044ft. 1046ft. 1048ft. 1050ft. 1052ft. 1054ft. 1056ft. 1058ft. 1060ft. 1062ft. 1064ft. 1066ft. 1068ft. 1070ft. 1072ft. 1074ft. 1076ft. 1078ft. 1080ft. 1082ft. 1084ft. 1086ft. 1088ft. 1090ft. 1092ft. 1094ft. 1096ft. 1098ft. 1100ft. 1102ft. 1104ft. 1106ft. 1108ft. 1110ft. 1112ft. 1114ft. 1116ft. 1118ft. 1120ft. 1122ft. 1124ft. 1126ft. 1128ft. 1130ft. 1132ft. 1134ft. 1136ft. 1138ft. 1140ft. 1142ft. 1144ft. 1146ft. 1148ft. 1150ft. 1152ft. 1154ft. 1156ft. 1158ft. 1160ft. 1162ft. 1164ft. 1166ft. 1168ft. 1170ft. 1172ft. 1174ft. 1176ft. 1178ft. 1180ft. 1182ft. 1184ft. 1186ft. 1188ft. 1190ft. 1192ft. 1194ft. 1196ft. 1198ft. 1200ft. 1202ft. 1204ft. 1206ft. 1208ft. 1210ft. 1212ft. 1214ft. 1216ft. 1218ft. 1220ft. 1222ft. 1224ft. 1226ft. 1228ft. 1230ft. 1232ft. 1234ft. 1236ft. 1238ft. 1240ft. 1242ft. 1244ft. 1246ft. 1248ft. 1250ft. 1252ft. 1254ft. 1256ft. 1258ft. 1260ft. 1262ft. 1264ft. 1266ft. 1268ft. 1270ft. 1272ft. 1274ft. 1276ft. 1278ft. 1280ft. 1282ft. 1284ft. 1286ft. 1288ft. 1290ft. 1292ft. 1294ft. 1296ft. 1298ft. 1300ft. 1302ft. 1304ft. 1306ft. 1308ft. 1310ft. 1312ft. 1314ft. 1316ft. 1318ft. 1320ft. 1322ft. 1324ft. 1326ft. 1328ft. 1330ft. 1332ft. 1334ft. 1336ft. 1338ft. 1340ft. 1342ft. 1344ft. 1346ft. 1348ft. 1350ft. 1352ft. 1354ft. 1356ft. 1358ft. 1360ft. 1362ft. 1364ft. 1366ft. 1368ft. 1370ft. 1372ft. 1374ft. 1376ft. 1378ft. 1380ft. 1382ft. 1384ft. 1386ft. 1388ft. 1390ft. 1392ft. 1394ft. 1396ft. 1398ft. 1400ft. 1402ft. 1404ft. 1406ft. 1408ft. 1410ft. 1412ft. 1414ft. 1416ft. 1418ft. 1420ft. 1422ft. 1424ft. 1426ft. 1428ft. 1430ft. 1432ft. 1434ft. 1436ft. 1438ft. 1440ft. 1442ft. 1444ft. 1446ft. 1448ft. 1450ft. 1452ft. 1454ft. 1456ft. 1458ft. 1460ft. 1462ft. 1464ft. 1466ft. 1468ft. 1470ft. 1472ft. 1474ft. 1476ft. 1478ft. 1480ft. 1482ft. 1484ft. 1486ft. 1488ft. 1490ft. 1492ft. 1494ft. 1496ft. 1498ft. 1500ft. 1502ft. 1504ft. 1506ft. 1508ft. 1510ft. 1512ft. 1514ft. 1516ft. 1518ft. 1520ft. 1522ft. 1524ft. 1526ft. 1528ft. 1530ft. 1532ft. 1534ft. 1536ft. 1538ft. 1540ft. 1542ft. 1544ft. 1546ft. 1548ft. 1550ft. 1552ft. 1554ft. 1556ft. 1558ft. 1560ft. 1562ft. 1564ft. 1566ft. 1568ft. 1570ft. 1572ft. 1574ft. 1576ft. 1578ft. 1580ft. 1582ft. 1584ft. 1586ft. 1588ft. 1590ft. 1592ft. 1594ft. 1596ft. 1598ft. 1600ft. 1602ft. 1604ft. 1606ft. 1608ft. 1610ft. 1612ft. 1614ft. 1616ft. 1618ft. 1620ft. 1622ft. 1624ft. 1626ft. 1628ft. 1630ft. 1632ft. 1634ft. 1636ft. 1638ft. 1640ft. 1642ft. 1644ft. 1646ft. 1648ft. 1650ft. 1652ft. 1654ft. 1656ft. 1658ft. 1660ft. 1662ft. 1664ft. 1666ft. 1668ft. 1670ft. 1672ft. 1674ft. 1676ft. 1678ft. 1680ft. 1682ft. 1684ft. 1686ft. 1688ft. 1690ft. 1692ft. 1694ft. 1696ft. 1698ft. 1700ft. 1702ft. 1704ft. 1706ft. 1708ft. 1710ft. 1712ft. 1714ft. 1716ft. 1718ft. 1720ft. 1722ft. 1724ft. 1726ft. 1728ft. 1730ft. 1732ft. 1734ft. 1736ft. 1738ft. 1740ft. 1742ft. 1744ft. 1746ft. 1748ft. 1750ft. 1752ft. 1754ft. 1756ft. 1758ft. 1760ft. 1762ft. 1764ft. 1766ft. 1768ft. 1770ft. 1772ft. 1774ft. 1776ft. 1778ft. 1780ft. 1782ft. 1784ft. 1786ft. 1788ft. 1790ft. 1792ft. 1794ft. 1796ft. 1798ft. 1800ft. 1802ft. 1804ft. 1806ft. 1808ft. 1810ft. 1812ft. 1814ft. 1816ft. 1818ft. 1820ft. 1822ft. 1824ft. 1826ft. 1828ft. 1830ft. 1832ft. 1834ft. 1836ft. 1838ft. 1840ft. 1842ft. 1844ft. 1846ft. 1848ft. 1850ft. 1852ft. 1854ft. 1856ft. 1858ft. 1860ft. 1862ft. 1864ft. 1866ft. 1868ft. 1870ft. 1872ft. 1874ft. 1876ft. 1878ft. 1880ft. 1882ft. 1884ft. 1886ft. 1888ft. 1890ft. 1892ft. 1894ft. 1896ft. 1898ft. 1900ft. 1902ft. 1904ft. 1906ft. 1908ft. 1910ft. 1912ft. 1914ft. 1916ft. 1918ft. 1920ft. 1922ft. 1924ft. 1926ft. 1928ft. 1930ft. 1932ft. 1934ft. 1936ft. 1938ft. 1940ft. 1942ft. 1944ft. 1946ft. 1948ft. 1950ft. 1952ft. 1954ft. 1956ft. 1958ft. 1960ft. 1962ft. 1964ft. 1966ft. 1968ft. 1970ft. 1972ft. 1974ft. 1976ft. 1978ft. 1980ft. 1982ft. 1984ft. 1986ft. 1988ft. 1990ft. 1992ft. 1994ft. 1996ft. 1998ft. 2000ft. 2002ft. 2004ft. 2006ft. 2008ft. 2010ft. 2012ft. 2014ft. 2016ft. 2018ft. 2020ft. 2022ft. 2024ft. 2026ft. 2028ft. 2030ft. 2032ft. 2034ft. 2036ft. 2038ft. 2040ft. 2042ft. 2044ft. 2046ft. 2048ft. 2050ft. 2052ft. 2054ft. 2056ft. 2058ft. 2060ft. 2062ft. 2064ft. 2066ft. 2068ft. 2070ft. 2072ft. 2074ft. 2076ft. 2078ft. 2080ft. 2082ft. 2084ft. 2086ft. 2088ft. 2090ft. 2092ft. 2094ft. 2096ft. 2098ft. 2100ft. 2102ft. 2104ft. 2106ft. 2108ft. 2110ft. 2112ft. 2114ft. 2116ft. 2118ft. 2120ft. 2122ft. 2124ft

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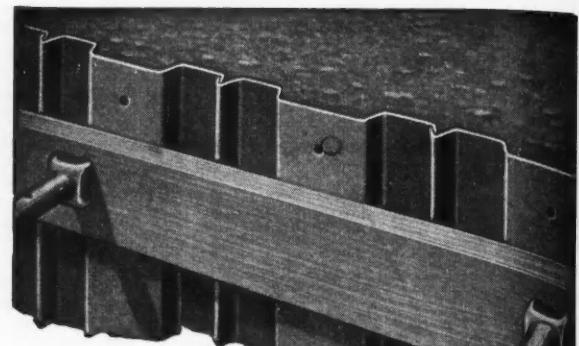
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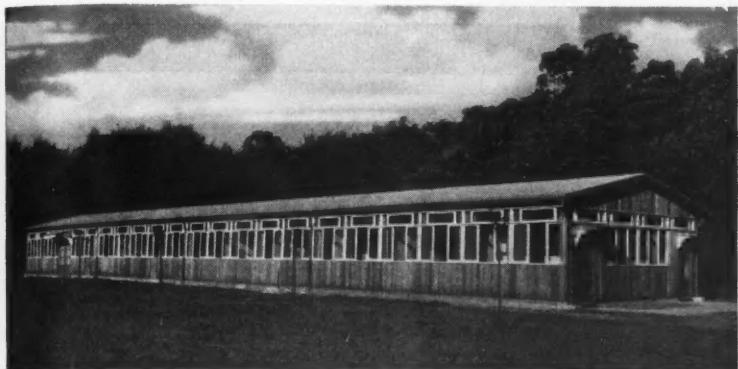
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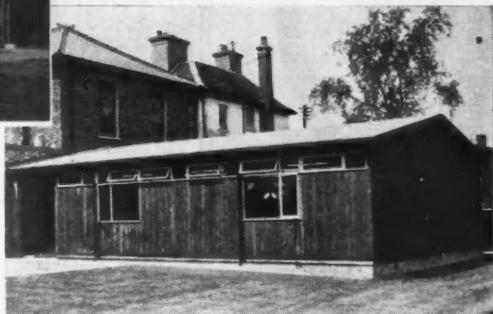
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(Above) CIVIL DEFENCE HEADQUARTERS, WALTON-ON-THAMES.
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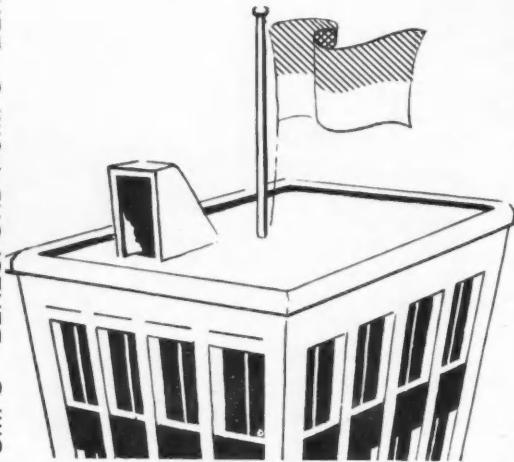
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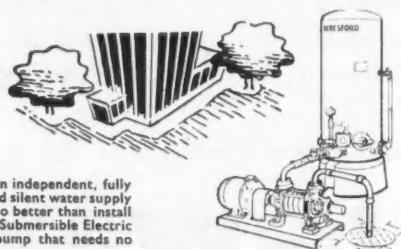


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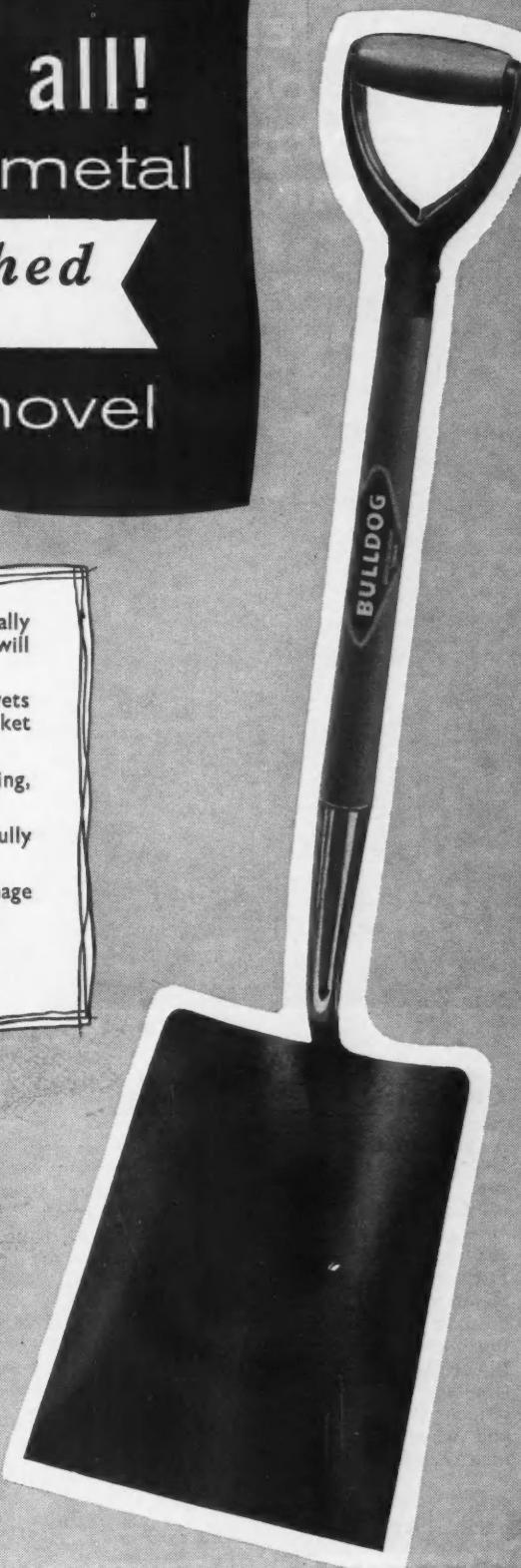
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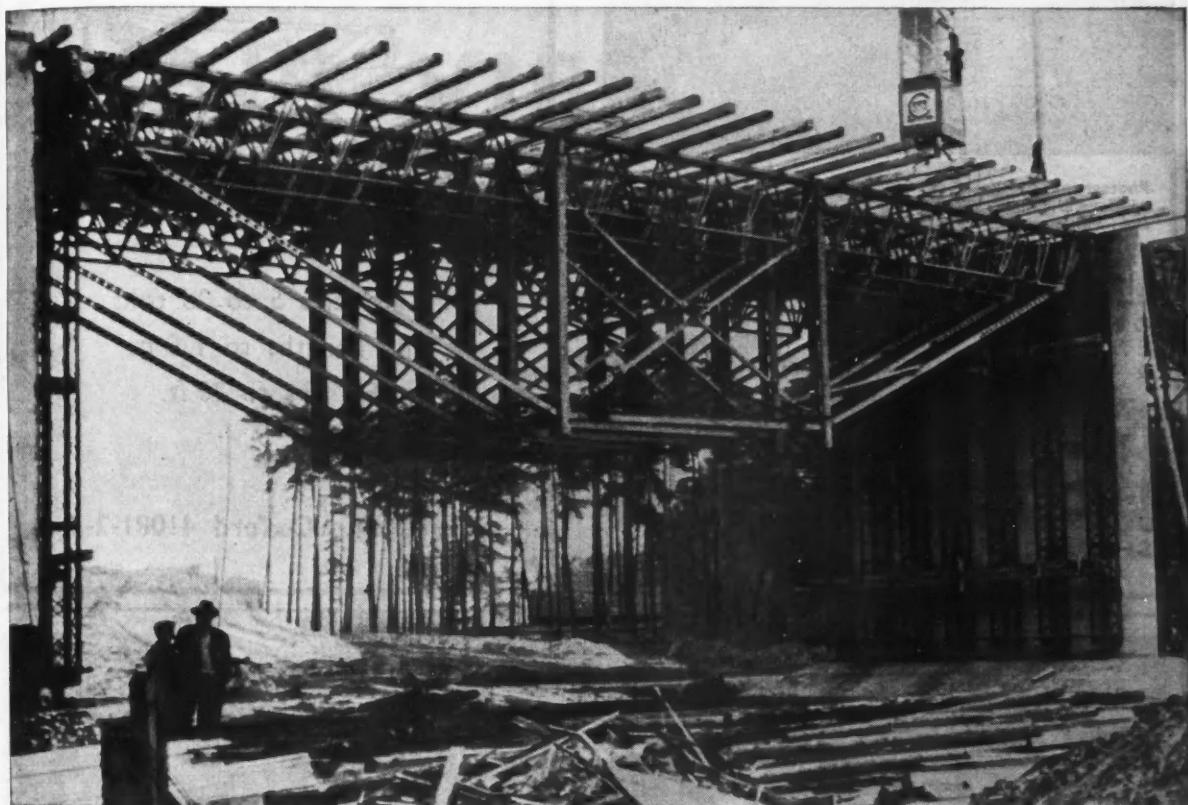
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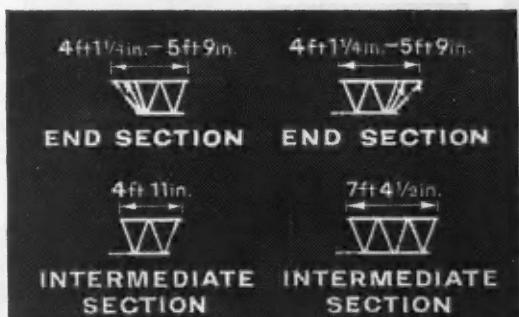


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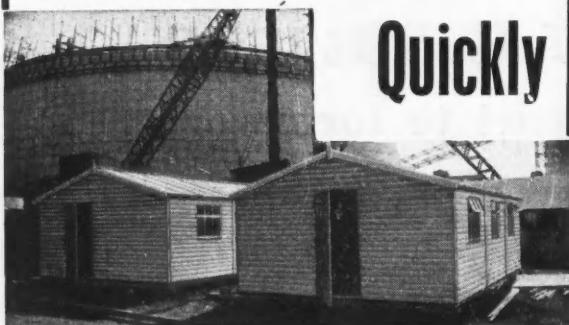
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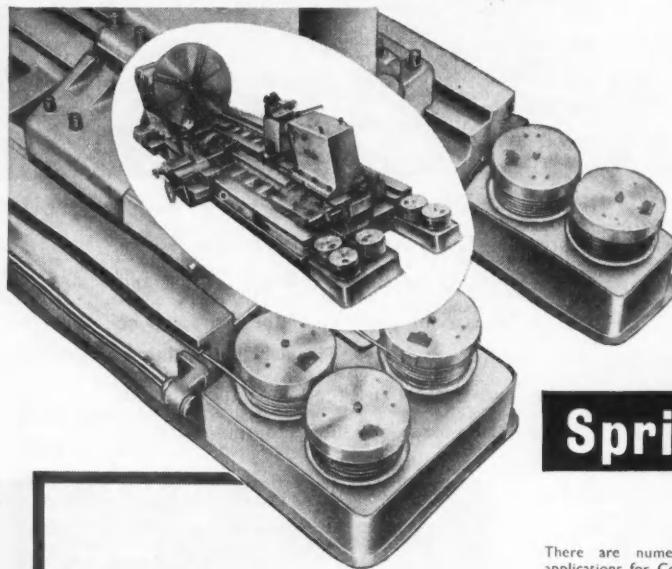
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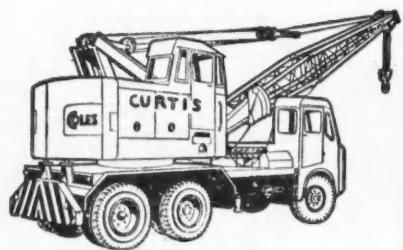
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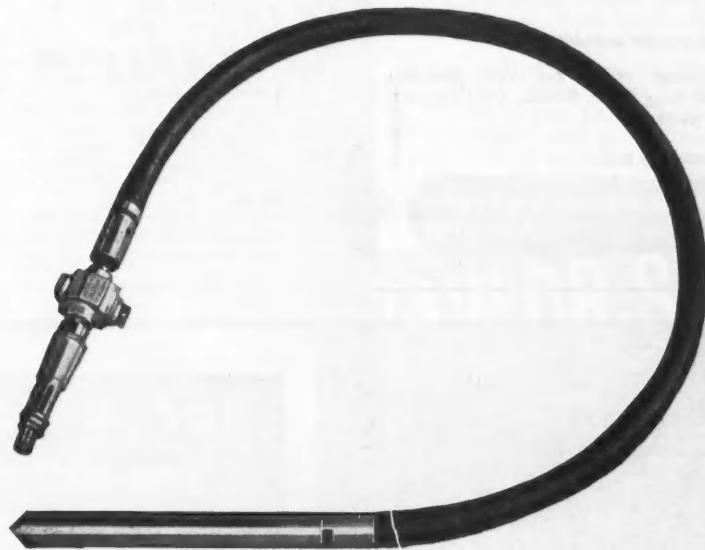
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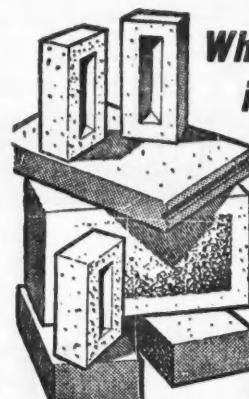
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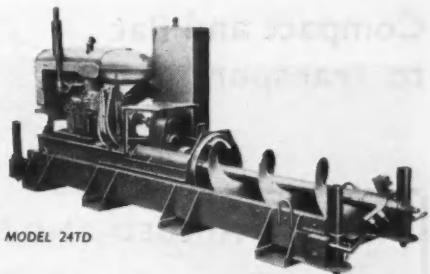
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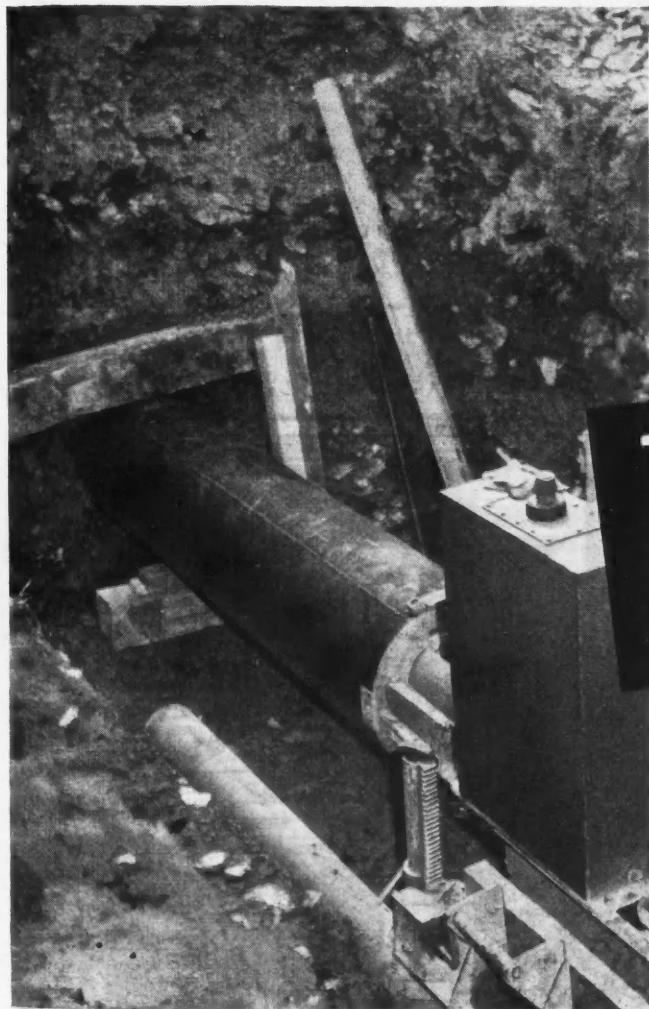
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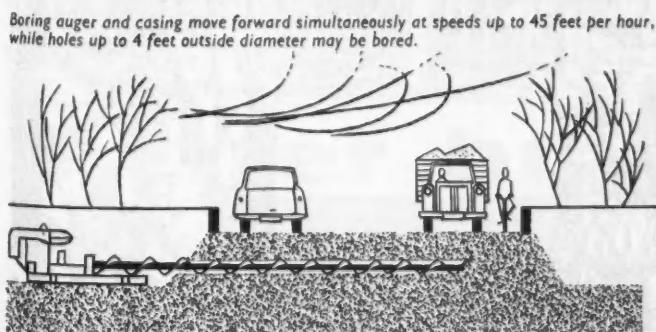
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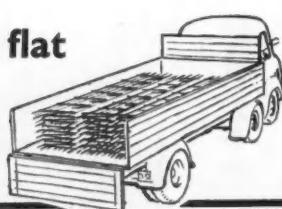
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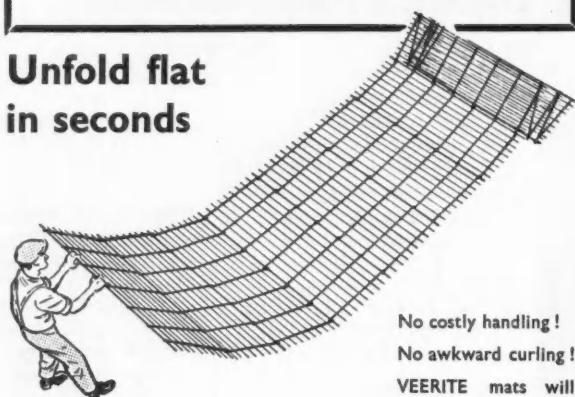
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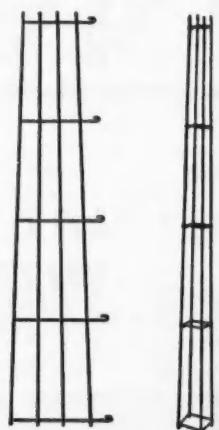
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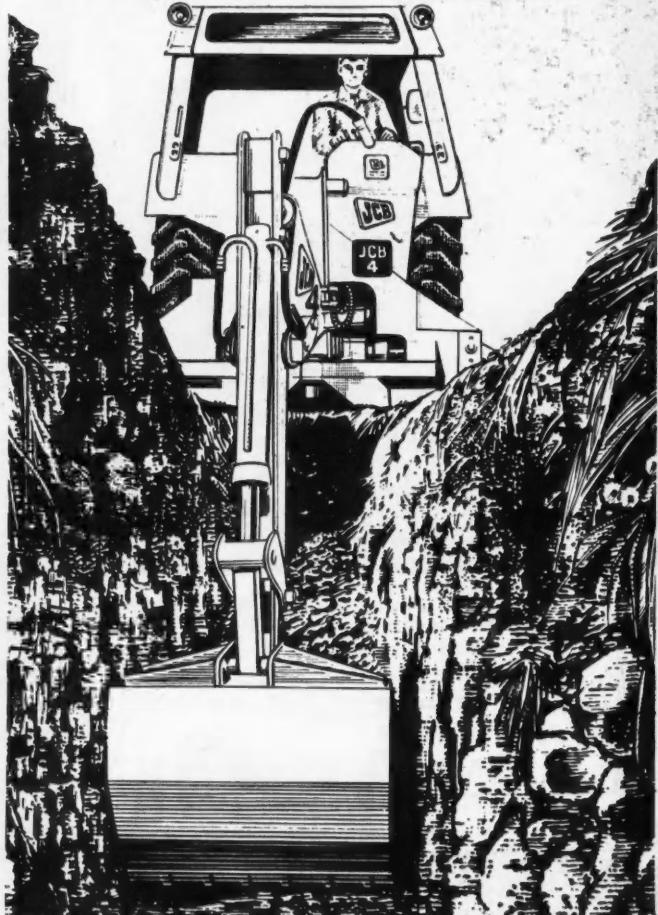
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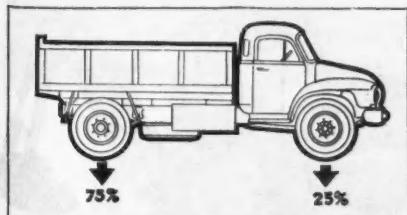
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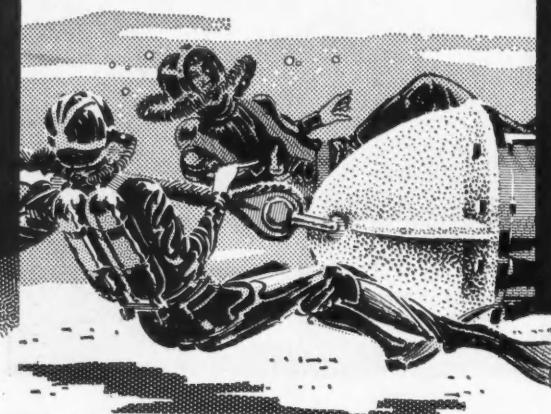
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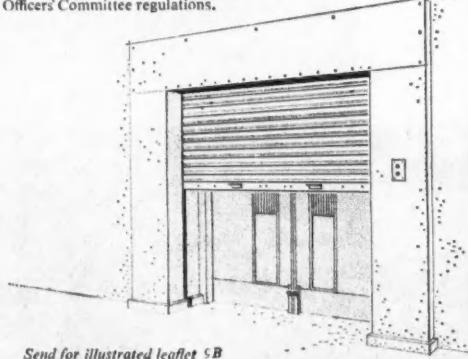


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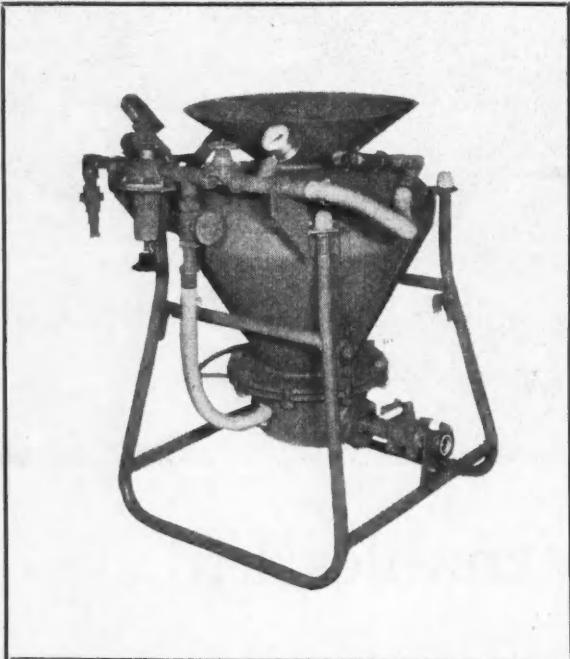
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CONTRACTS

STAFFORDSHIRE COUNTY COUNCIL

TENDERS are invited for the WIDENING of approx. 3½ miles of the BIRMINGHAM-WOLVERHAMPTON TRUNK ROAD, A.4123, in Coseley, to provide dual carriageways.

The Works will consist of the Construction in Verges and existing Carriageway, Kerbing, Carriageway Foundation in various materials, Drainage, and Surfacing in Bitumen Macadam. Alterations will also be carried out to existing automatic traffic signal installations.

No tenders shall be accepted after 12th August.

Copies of the Specification and Bill of Quantities may be obtained from the undersigned on payment of a deposit of £5 which will be refunded on receipt of a bona-fide Tender or on return of the documents before closing date.

Tenders, endorsed "Dualing of A.4123 in Coseley," and bearing no mark or indication of the name of the sender, should be returned to the undersigned not later than 12 Noon on the 22nd AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.

July, 1961.

COUNTY BOROUGH OF HUDDERSFIELD.

RECONSTRUCTION OF PARTS OF NEW NORTH ROAD AND EDDINGTON-HALIFAX ROAD. A.629.

TENDERS are invited for the RECONSTRUCTION of PARTS OF THE ABOVE-MENTIONED ROADS.

The work consists of the Reconstruction of Carriageway Haunches in Reinforced Concrete (9,300 sq. yd.) and the Carpeting of Carriageways in Two Course Hot Rolled Asphalt (11,500 sq. yd.), together with Kerbing, Channelling, Surfacing of Footways, Rebuilding of Seats, and Concrete Retaining Walls, and ancillary works.

Plans and Conditions may be seen, and Forms of Tender, Specifications and Bills of Quantities obtained on application to A. L. PERCY, B.Sc., M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield.

£2 2s. refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, in the envelope provided, to be delivered to the undersigned by 10 a.m. on THURSDAY, 17th August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield.

July, 1961.

BOROUGH OF MAIDENHEAD.

COX GREEN HOUSING ESTATE.

CARRIAGEWAY RECONSTRUCTION AND FOOTWAY WORKS—STAGE II, SECTION I.

The COUNCIL invites TENDERS for the CONSTRUCTION of FLAG-PAVED FOOTWAYS with Cold Asphalt Surfaced Verges (approx. 2,150 sq. yd.) and for the REMOVAL of EXISTING ROAD HOGGIN SURFACE, and the PROVISION and LAYING by MECHANICAL PREADER of approx. 3,750 sq. yd. of TARMACADAM BASE and BITUMINOUS MACADAM WEARING COURSES to CARRIAGEWAYS, together with all incidental works.

Drawings may be seen at, and Tender documents obtained from, the Office of the Borough Engineer and Surveyor, 14 Cranbury Rise, Maidenhead, on payment of a deposit of Two Pounds (£2) which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelope endorsed "Cox Green Housing Estate—Carriageway Reconstruction and Footway Works—Stage II, Section I," and bearing no mark or indication of the sender, must be delivered to me, not later than MONDAY, the 21st August, 1961.

The Council does not bind itself to accept the lowest or any other Tender.

STANLEY PLATT,
Town Clerk.

Guildhall,
Maidenhead, Berks.

July, 1961.

BOROUGH OF BARKING.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

RECONSTRUCTION OF ALFRED'S WAY, A.13, BETWEEN GASCOGNE ROAD, AND KING EDWARD'S ROAD.

TENDERS, returnable by 9 a.m. on MONDAY, the 28th August, 1961, are invited for the BREAKING-UP of the EXISTING REINFORCED CONCRETE AND ASPHALT CARRIAGeway, and RECONSTRUCTING with a 10in. thick REINFORCED CONCRETE SLAB, 1,720 sq. yd. in extent, together with ancillary Drainage and Kerbing Works.

Specification, Bill of Quantities and Form of Tender can be obtained on application to the Borough Engineer and Surveyor, Town Hall, Barking, Essex.

E. R. FARR,
Town Clerk.

Town Hall,
Barking.

July, 1961.

SOMERSET RIVER BOARD.

WICK ST. LAWRENCE WALL SCHEME NO. 3.

IMPROVEMENT OF SEA DEFENCES.

TENDERS are invited for WORK in connection with the ABOVE SCHEME, the site of which is situated on the coast of the River WICK at Weston-super-Mare, Somerset. It comprises the FOLLOWING:

1. Construction of Access Road on top of the existing sea bank, 10ft. wide, 1,000ft. long.
2. Construction of New Toe Wall 1,000ft. long of Stone Pitching Grouted with Hot Filled Bitumen.
3. Repitching areas of the Sea Wall Face with Block Stone.
4. Grouting with Hot Filled Bitumen 8,450 sq. yd. of Block Stone Pitching on the Sea Face.

Contract documents may be obtained from the undersigned, and Tenders, in the sealed envelope provided, must be received not later than 10 a.m. on 6th SEPTEMBER, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

E. L. KELTING, O.B.E., M.I.C.E., Barrister-at-Law,
Engineer to the Board.

Somerset River Board,
Divisional Engineer's Office,
Stonewall Lane,
Congresbury,
Near Bristol.

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.

LONDON-INVERNESS TRUNK ROAD, ROUTE A.6.

IMPROVEMENT AT WILSTEAD, SOUTH OF COTTON END TURN.

TENDERS are invited for the ABOVE WORK, which entails Clearing Site, Earthworks, Surface Water Drainage, and the Realignment and Widening of the Trunk Road to 24ft. for a length of approx. 450yd.

Tenders, documents and bills of drawing may be obtained from the County Surveyor, Dents Road, Bedford, on depositing the sum of £2, which will be refunded on receipt of a bona-fide Tender or return of documents before closing date. Detailed drawings may be inspected by appointment.

Sealed Tenders, in a plain envelope endorsed "Improvement at Wilstead," must be delivered to the undersigned by 12 Noon on FRIDAY, 18th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford.
21st July, 1961.

BOROUGH OF REIGATE.

(1) CONSTRUCTION OF SURFACE WATER SEWERS—SCHOOL HILL AND BLETHINGLEY ROAD, SOUTH MERSTHAM.

(2) THE IMPROVEMENT OF BLETHINGLEY ROAD—NUTFIELD ROAD, READINGTON, SOUTH MERSTHAM.

(3) THE RENEWAL OF THE SURFACE WATER SEWER, QUALITY STREET AND HIGH STREET, MERSTHAM.

TENDERS are invited for the ABOVE-MENTIONED WORKS, comprising the Provision and Laying of some 580 lin. yd. of 15in. diameter, 12in. diameter, and 9in. diameter Precast Concrete Pipes. Alterations to approximately 100 lin. yd. Precast Concrete Kerbing, together with various ancillary Works.

Tender Form may be obtained from, and Conditions of Contract may be inspected at, the office of the Borough Engineer and Surveyor.

Tenders must be returned, in the sealed envelope provided to the undersigned not later than FRIDAY, 18th August, 1961.

The Council does not bind themselves to accept the lowest or any Tender.

HEBER DAVIES,
Town Clerk.

Town Hall,
Reigate.
27th July, 1961.

BOROUGH OF EALING.

DEMOLITION WORKS.

TENDERS invited for DEMOLITION of TEMPORARY BUILDING at REAR OF TOWN HALL, and 191 BOSTON ROAD, Hanwell.

For details and Tender Form from Borough Engineer, Town Hall, Ealing, W.5.

Closing date: 8th AUGUST, 1961.

E. J. COPE BROWN,
Town Clerk.

WEST BRIDGEMURBAN DISTRICT COUNCIL.

WORKS OF SEWERAGE AND SEWAGE DISPOSAL.

TENDERS on a Fixed-price Basis are invited for the CONSTRUCTION of WORKS, comprising about 3,100 lin. yd. of Glazed Stoneware and Spun-Iron Pipe Sewers of diameter ranging from 10in. to 24in. (part of which may be laid in tunnel) with Manholes, about 5,200 lin. yd. of Spun-Iron Rising Mains, of diameters ranging from 10in. to 24in. (including a crossing under the River Trent), with Chambers and Hubboxes, Pumping Stations, and Sewer Water Tanks involving Reinforced Concrete Construction, together with incidental works, all in accordance with the Drawings, Specification and Bills of Quantities prepared by the Consulting Engineers, A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from, the Offices of the undersigned or of the Consulting Engineers, on or after the 15th August, 1961, on payment of a deposit of Five Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, in the form supplied and in the endorsed envelope provided, are to be delivered to me at my Office not later than Noon on the 26th SEPTEMBER, 1961.

The Council does not undertake to accept the lowest or any Tender.

A. G. MANSFIELD,
Clerk of the Council.

Offices of the West Bridgford U.D.C.,
The Hall,
Bridgford Road,
West Bridgford,
Nottingham.
21st July, 1961.

SPALDING RURAL DISTRICT COUNCIL.

EXTENSIONS TO CROWLAND SEWAGE DISPOSAL WORKS.

CONTRACTS 1 AND 2.

TENDERS are invited for the FOLLOWING CONTRACTS:

CONTRACT NO. 1—Extension to the Crowland Sewage Disposal Works, involving the Construction of additional Balancing, Settlement and Sludge Tank, Filter Beds, together with a Sludge Pumping Station, Dewatering Tank and Sludge Drying Beds, and the Laying of 720yd. of 6in. dia. Rising Main to the Works from the main Pumping Station.

CONTRACT NO. 2—The Supply and Erection of one 100 g.p.m. Sludge Pump, with ancillary equipment.

Contractors wishing to tender should apply to the Council's Consulting Engineers, MESSRS. J. H. HAISTE AND PARTNERS, 44/46 Bridge Street, Peterborough, enclosing a deposit cheque value Three Guineas in respect of each Contract, and made payable to the Spalding Rural District Council, such deposit to be refunded upon receipt of a bona-fide Tender and the return of the documents.

Drawings may be inspected at either the Council Offices or the Consulting Engineer's Office.

Tenders should be submitted to the undersigned not later than 12 Noon on FRIDAY, 25th August, 1961.

The Council does not bind themselves to accept the lowest or any Tender.

MAURICE CLAYE,
Clerk of the Council.

Rural Council Offices,
Priory Road,
Spalding, Lincs.

CONTRACTS

HERTFORDSHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING CONTRACT:

A.414—Stanstead Abbotts-Sawbridgeworth Road: Construction of Eastwick Diversion.

The work consists of the Construction of a length of 600 yd. of New Road in a diversion of A.414 at Eastwick, and an adjoining length of 400yd. of Carriageway Widening comprising Earthworks, Lean-Mix Concrete Foundations, Asphalt Surfacing, Culverts, and Drains.

Tender documents may be obtained from, and Drawings inspected by appointment during normal working hours at, the Office of the County Surveyor, County Hall, Hertford, on or after Monday, 14th August, 1961.

Tenders are to be returned to the CLERK OF THE COUNTY COUNCIL not later than 6th SEPTEMBER, 1961.

The County Council are not bound to accept the lowest or any Tender.

BOROUGH OF NEWBURY.

BATH ROAD HOUSING SITE—PART IV—KERBING AND FOOTPATHS.

TENDERS are invited for the ABOVE comprising approx. 2,100 lin. yd. of Kerbing and 2,500 sq. yd. of Asphalt Footpath with Precast Concrete Edging, Verges and ancillary works.

Form of Tender, Specification and Bill of Quantities may be obtained from the Borough Surveyor, Municipal Buildings, Newbury, at whose Office Plans and General Conditions may be inspected.

Sealed Tenders, endorsed "Housing Completion Works," must be delivered to the undersigned not later than WEDNESDAY, August 16th, 1961. The Corporation does not bind itself to accept the lowest or any Tender.

LESLIE SOUTHERN,
Town Clerk.

CITY AND ROYAL BURGH OF PERTH.

WATER SUPPLY.

CONTRACT NO. 1—24IN. DIA. PUMPING MAIN.

THE LORD PROVOST, MAGISTRATES and COUNILLORS of the City and Royal Burgh of Perth are prepared to receive TENDERS for EXCAVATING and REFILLING TRENCHES for, and SUPPLYING, LAYING and JOINTING about 3,485yd. of 24in. and 770yd. of 18in. dia. SPUN-IRON PIPES with Tyton Jointing with relative and incidental works.

Plans may be seen at the Office of the City Water Engineer and Manager, Marshall Place, Perth, or at the Offices of the Consulting Engineers, MESSRS. CROUCH AND HOGG, 18 Woodside Crescent, Glasgow, C.3, from the latter of whom copies of the Specification, Schedule of Quantities and Tender may be obtained after 24th July, 1961, on written application, accompanied by a deposit cheque of £10, returnable on receipt of a bona-fide Tender.

A representative of the Engineers will meet intending offerers at Mulrton Toll, on the Dunkeld Road, on TUESDAY, 1st August, 1961, at 1.15 p.m.

Sealed Tenders are to be lodged with the undersigned not later than 5 p.m. on TUESDAY, 29th August, 1961.

A. H. MARTIN,
Town Clerk.

CITY OF DURHAM.

GRAPE LANE, CROSSGATE.

ERECITION OF 26 ONE-BEDROOM DWELLINGS.

THE COUNCIL invites applications for TENDER DOCUMENTS relating to the ERECTION of the ABOVE SITE OF 26 ONE-BEDROOM DWELLINGS (Eight Single-storey and Nine Double-storey Units). The Architects for the development are MESSRS. TARREN AND CALLER, Chartered Architects, Sedgfield and Newcastle.

Bills of Quantities will be available shortly, and the closing date for the receipt of completed Tenders, which should be enclosed in plain sealed envelopes bearing the words "Tender for 26 Dwellings," but not bearing any name or mark indicating the sender, will be in early September. The exact date will be indicated on the date of Tender.

Applications for Tender documents should be made to the City Engineer, Town Hall, Durham, and should be accompanied by a deposit of £2 2s., which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

The Council's standing orders provide that no Tenders will be received except those sent in complying with the above direction.

The Council does not bind itself to accept the lowest or any Tender.

D. B. MARTIN-JONES,
Town Clerk.

32 Claypath,
Durham,
24th July, 1961.

MIDHURST RURAL DISTRICT COUNCIL.

TENDERS are invited, on a FIXED-PRICE BASIS, for SITE WORKS at SANDROCK HOUSING SITE, involving the Construction of a Lay-by and Estate Roads, Footpaths, Surface Water Sewer, and ancillary Works.

Plans, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, upon payment of Two Guineas deposit, refundable upon receipt of a bona-fide Tender.

Tenders are to be enclosed in a plain sealed envelope endorsed "Sandrock Site Works," and to be delivered to the undersigned not later than 1st SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. L. BLAY,
Clerk of the Council.

Council Offices,
North Street,
Midhurst,
Sussex.
20th July, 1961.

SOUTH DERBYSHIRE WATER BOARD.

REINFORCED CONCRETE SERVICE RESERVOIR.

Contractors possessing the necessary experience and plant, and wishing to TENDER for the ABOVE SCHEME, are invited to submit their names to the Engineer and General Manager, 1 Tenant Street, Derby, by 14th AUGUST, 1961.

The work consists of the Construction of a covered Reinforced Concrete Service Reservoir, of 10 million gallons capacity and a depth of 24ft.

Applications must be accompanied by a list of works of a similar nature and magnitude carried out by the applicant.

N. S. FISHER,
Clerk to the Board.

22nd July, 1961.

CONTRACTS

LONDON COUNTY COUNCIL.
SUPPLY AND DELIVERY OF CAST-IRON SEWER SEGMENTS FOR NORTHERN OUTFALL SEWER BRIDGE

QUOTATIONS are invited from contractors having experience of casting large cast-iron sewer segments, for the SUPPLY and DELIVERY of SUCH SEGMENTS (total approx. weight 165 tons) required for the Reconstruction of MANOR ROAD BRIDGE, E.15.

Form of Quotation, Specification, etc., and Drawings are obtainable from the Chief Engineer upon payment of £2.00 by crossed cheque or order made payable to the London County Council which will be returned only if a bona-fide Quotation is submitted and not subsequently withdrawn.

Quotation and other relevant documents may be inspected on personal application at Room 450D, the County Hall, before payment of fee. Remittance by post should be addressed to the CHIEF ENGINEER, County Hall, Westminster Bridge, S.E.1.

No Quotation received after 4 p.m. on 28th AUGUST, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Quotation.

ISLE OF ELY COUNTY COUNCIL.
FIRE SERVICE COMMITTEE.

PROPOSED WORKSHOP UNIT AND DRILL TOWER—COUNTY FIRE HEADQUARTERS, WISBECH.

Building contractors are invited to submit FIXED-PRICE TENDERS for the ABOVE WORK, which comprises the FOLLOWING:

- (1) Steel-frame Workshop Building of approx. 3,200 sq. ft., the building being part two-storey, and part single-storey.
- (2) A Drill Tower approx. 65ft. high, in Reinforced Brickwork.

- (3) Site Boundary Buildings; and
- (4) Alterations to the existing Appliance Room.

The Bills of Quantities will be available on 21st August, and Tenders are to be submitted by 25th SEPTEMBER, 1961.

Contractors requiring documents are to apply in writing to the County Architect, County Hall, March, Cambs, not later than 12th AUGUST. All applications must be accompanied by a cheque for £2 2s., payable to the Isle of Ely County Council. This deposit will be refunded upon receipt of a bona-fide Tender.

R. F. G. THURLOW,
Clerk of the County Council.

County Hall,
March.COUNTY BOROUGH OF HALIFAX.
PRIVATE STREET WORKS—PYE NEST DRIVE.

TENDERS, based on Fixed-price Rates, are invited for the MAKING-UP of PYE NEST DRIVE, including Surfacing and Footpath Works. Total area approx. 1,900 sq. yd.

Details from the Borough Engineer, Crossley Street, Halifax, on receipt of £2 (cheques made payable to the Halifax Corporation), returnable on receipt of a bona-fide Tender, delivered to the undersigned by FRIDAY, 18th August, 1961.

RICHARD de Z. HALL,
Town Clerk.

Town Hall,
Halifax.BOROUGH OF CHESTERFIELD.
WALTON HALL FARM HOUSING ESTATE.

PRELIMINARY CONSTRUCTION OF STREETS AND SEWERS.

TENDERS are invited for the CONSTRUCTION of the STREETS and SEWERS on the Walton Hall Farm Housing Estate, comprising an area of 11 acres approx.

The works consist generally of the Laying of Foul and Surface Water Sewers, and the Construction of Manholes, Excavation for Carriageways and Footways, Laying Kerbs, and the Construction of Carriageways up to the kerbs.

The Drawings and General Conditions of Contract may be inspected at, and the Specification and Bills of Quantities may be obtained from, the Office of the Borough Engineer and Surveyor, Town Hall, Chesterfield, upon payment of a deposit of Two Guineas, refundable upon receipt of a bona-fide Tender and the return of all documents.

Tenders, which must be in plain sealed envelopes endorsed "Tender for Walton Hall Farm Housing Estate," and bearing no indication of the sender, must reach the undersigned not later than 10 a.m. on MONDAY, 14th August, 1961.

RICHARD CLEGG,
Town Clerk.

BASINGSTOKE RURAL DISTRICT COUNCIL.

EXTENSIONS TO SHERFIELD-ON-LODDON AND SHERBORNE ST. JOHN SEWAGE DISPOSAL WORKS.

BS/2 CONTRACT 3 AND BS/3 CONTRACT 2.
TO CIVIL ENGINEERING AND PUBLIC WORK CONTRACTORS.

The Basingstoke Rural District Council invite TENDERS from experienced contractors for EXTENSIONS to the ABOVE WORKS, as follows: At Sherfield-on-Loddon—new Sedimentation Tanks, Filter Beds, and new Sludge Digestion Tanks, Drying Bed at Sherborne St. John—New Humus Tanks, and other ancillary works.

Particulars and Specification may be obtained, and Plans inspected, at the Offices of the Council's Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from Monday, 24th July, 1961, until Friday, 11th August, 1961, between the hours of 10 a.m. and 4 p.m., upon payment of a deposit of Five Guineas by cheque, made payable to the Basingstoke Rural District Council, which deposit, after the Council have received a decision, will be returned to each contractor who has submitted a bona-fide Tender, which has not subsequently been withdrawn. Prints of Contract Drawings can be obtained from the Consulting Engineers on payment to them of £1 5s. by cheque to Howard Humphreys (Services). All prints so supplied are to be returned.

Tenders, on the official form, are to be delivered to the undersigned in sealed envelopes endorsed "Tender for Extensions to Sherfield-on-Loddon and Sherborne St. John Sewage Disposal Works," but bearing no name or other mark indicating the sender, not later than 21st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. S. REW,
Clerk to the Council.

Council Offices,
Eastlands,
Basingstoke,
July, 1961.

THE CONTRACT JOURNAL

CONTRACTS

BOROUGH OF GOSPORT.

PRIVATE STREET WORKS—CONTRACT NO. 3.

TENDERS are invited for the MAKING-UP of SEVEN PRIVATE STREETS within the Borough, involving the replacement of Broken Paving. The Length of approx. 140 lin. yds. of 6in. dia. Pipes in Gully Connections, together with one Manhole and Seven Gullies, and the Laying of 8,500 sq. yd. of Hot Rolled Asphalt Road Surfacing and 4,500 sq. yd. of Asphalt Footways, together with Turfing, Vehicle Crossings, and Apertures.

Tender documents are obtainable from the Borough Engineer, The Hall, Trinity Green, Gosport, upon deposit of Two Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tenders, Form of Tender, should be submitted to me, in the small endorsed envelope provided, and should bear no mark indicating the sender. The priced Bills of Quantities should at the same time be submitted to me, in the large endorsed envelope provided, and should bear the name of the tenderer. Both envelopes must be received at my office, not later than the First Post on TUESDAY, 5th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EDWARD ADDENBROOKE,
Town Clerk.

Town Hall,
Gosport.

BOROUGH OF MIDDLETON.

ASPHALT SURFACING.

TENDERS are invited for SUPPLYING and LAYING 1½in. SINGLE-COURSE HOT-ROLLED ASPHALT by Mechanical Spreader, together with Remedial Works, to the Foundation and Asphalt Regulating Course on HOLLIN LANE, A.0646, approximately 13,200 sq. yd.

Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer, Town Hall, Middleton, on payment of a deposit of Two Guineas (cheques to be made payable to Middleton Corporation), which will be refundable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Tender—Asphalt Surfacing," must be received by the undersigned not later than Noon on WEDNESDAY, 9th August.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.
July, 1961.

CHIGWELL URBAN DISTRICT COUNCIL.

CHILDREN'S PLAYGROUND—COOPERS CLOSE,
CHIGWELL ROW.

TENDERS are invited for WORKS comprising (approx.) 900 sq. yd. Macadam Paving, Erection of Play Equipment, and Remedial Works.

Tender Form, Bills of Quantities and Specification, on deposit of £2 2s. (returnable after submission of bona-fide Tender not afterwards withdrawn, and return of documents issued), may be obtained from the Engineer and Surveyor at the address below, where Drawings and Conditions of Contract may be inspected.

Contract will provide for Fair Wages Clause and Bond.

Tenders, sealed in plain envelope (provided), bearing no mark indicating sender, to CLERK OF THE COUNCIL, Council Offices, Loughton, Essex, by 18th AUGUST, 1961.

The Council does not bind itself to accept the lowest or any Tender.

Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

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Contract will provide for Fair Wages Clause and Bond.

Tenders, sealed in plain envelope (provided), bearing no mark indicating sender, to CLERK OF THE COUNCIL, Council Offices, Loughton, Essex, by 18th AUGUST, 1961.

The Council does not bind itself to accept the lowest or any Tender.

Contract will provide for Fair Wages Clause and Bond.

Tenders, sealed

CONTRACTS

CITY OF CARDIFF.
CITY SURVEYOR'S DEPARTMENT.
DOWNTON LANE IMPROVEMENT.

FIXED-PRICE TENDERS are invited for the IMPROVEMENT of DOWNTON LANE, RUMNEY, Cardiff. The work comprises the Reconstruction of about 1/4 mile of Road, including Carriageway, Footways, Drainage and other ancillary works. Conditions of Contract, Specification of Quantities may be obtained from the City Surveyor, at whose Office Drawings and Conditions of Contract may be inspected, and to whom application should be made, accompanied by a deposit of the sum of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

The deposit will be refunded on receipt of a bona-fide Tender, or the return of the Contract documents of the closing date.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Downton Lane Improvement," addressed to the undersigned at the City Hall, Cardiff, and sent by Registered Post or Recorded Delivery, so as to be received not later than THURSDAY, the 1st AUGUST, 1961.

The envelope must not bear the name of, or any mark indicating the identity of the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

City Hall,
Cardiff,
July, 1961.

CITY OF CARDIFF.
CITY ARCHITECT'S DEPARTMENT.
AGED PERSONS' HOME, NEWBOROUGH AVENUE,
LLANISHEN.

PROPOSED PASSENGER LIFT.

FIXED-PRICE TENDERS are invited for the SUPPLY, DELIVERY and INSTALLATION of an ELECTRICALLY OPERATED PASSENGER LIFT at the Aged Persons' Home, Newborough Avenue, Llanishen.

Conditions of Contract, Drawings and Specification may be inspected at the City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff.

Specification, Drawings and Form of Tender may be obtained from the City Architect, to whom application should be made, accompanied by a deposit of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Aged Persons' Home, Llanishen—Passenger Lift," addressed to the Town Clerk, at the City Hall, Cardiff, and sent by Registered Post or Recorded Delivery, so as to be received not later than the 29th AUGUST, 1961.

The envelope must not bear the name of, or any mark indicating the identity of the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

City Hall,
Cardiff,
July, 1961.

CITY OF CARDIFF.
CITY ARCHITECT'S DEPARTMENT.
SLOPER ROAD TRANSPORT DEPOT—

ALTERATIONS TO ELEVATION AND ROOF.

FIXED-PRICE TENDERS are invited for the CARRYING OUT of ALTERATIONS to the CLADDING of the FRONT ELEVATION, and RENOVATION of the ROOF of the TRANSPORT DEPOT at Sloper Road, Cardiff.

Conditions of Tender, Specification, Bills of Quantities and Drawings may be inspected at the City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff.

Specification, Bills of Quantities and Form of Tender may be obtained from the City Architect, to whom application should be made, accompanied by a deposit of £2 2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co." The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Sloper Road Depot—Elevation and Roof," addressed to the Town Clerk, at the City Hall, Cardiff, and sent by Registered Post or Recorded Delivery, so as to be received not later than the 25th AUGUST, 1961.

The envelope must not bear the name of, or any mark indicating the identity of the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

City Hall,
Cardiff,
July, 1961.

HIGHWORTH RURAL DISTRICT COUNCIL.
BISHOPSTOW SEWERAGE AND SEWAGE DISPOSAL.

TENDERS will shortly be requested for the ABOVE SCHEME, consisting of 3,300yd. of 6in. Sewers, and Discharge Works, 1.2m. of 600mm. Sewerage.

Contractors wishing to Tender for this should submit their names to the undersigned within two weeks from the appearance of this advertisement.

W. S. G. MILLS,
Clerk of the Council.

Council Offices,
Bath Road,
Swindon.

NANTWICH RURAL DISTRICT COUNCIL.
DRAINAGE SCHEME—CEMETERY ROAD, WESTON.

TENDERS are invited for the CONSTRUCTION of approx. 1/4 mile 6in. dia. SEWER, maximum 12ft. deep, together with Manholes and other relevant works.

Specification, Bill of Quantities and Form of Tender may be obtained from the Engineer and Surveyor on deposit of One Guinea.

Tenders must be delivered to the undersigned, in the envelope provided, not later than the First Post on MONDAY, 18th September, 1961.

(Signed) G. S. ASHWORTH,
Clerk of the Council.

Stapeley House,
Nantwich,
24th July, 1961.

CONTRACTS

WEST SUSSEX COUNTY COUNCIL.
LONDON-PORTSMOUTH TRUNK ROAD, A.3.
NEAR THE FLYING BULL PUBLIC HOUSE, RAKE.

Public works contractors wishing to TENDER for the ABOVE ROAD IMPROVEMENT SCHEME, involving the Realignment of 140yd. of the southern side of the Trunk Road and Raising the Level of Bull Hill over a length of 130yd., using Wet-Mix Construction with a Bituminous Surfacing, should submit their names to MAURICE MILNE, B.Sc., M.I.C.E., M.I.M.E., A.M.I.Struct.E., A.M.T.P.I., County Engineer and Surveyor, County Hall, Chichester, not later than First Post on WEDNESDAY, 9th August, 1961.

T. C. HAYWARD,
Clerk of the County Council.
County Hall,
Chichester.

NORTH RIDING OF YORKSHIRE COUNTY COUNCIL.
HIGHWAYS AND BRIDGES DEPARTMENT.

MERCURY VAPOUR LIGHTING AT TWO ROUNDABOUTS.

TENDERS invited. Apply for Specification, etc., to the County Surveyor, County Hall, Northallerton, Yorkshire. The closing date for Tenders is 21st AUGUST, 1961.

R. A. WOTHERSPOON,
Clerk of the County Council.
County Hall,
Northallerton.

CITY OF BIRMINGHAM.
HOUSING MANAGEMENT DEPARTMENT.
SILICONE WATERPROOFING SOLUTIONS.

The HOUSING MANAGEMENT COMMITTEE is giving consideration to the establishment of an approved list of BRANDED SILICONE WATERPROOFING SOLUTIONS FOR BRICKWORK, etc.

Manufacturers who desire a place to be considered for inclusion in the approved list should apply to the undersigned for a statement of the conditions applicable.

Acceptance on the approved list will be essential before Tenders from either manufacturers or other suppliers can be considered.

J. P. MACEY,
Housing Manager.
Bush House,
Broad Street,
Birmingham, 1.

CHELMSFORD RURAL DISTRICT COUNCIL.
(AMENDED ADVERTISEMENT.)

DANBURY AND OTHER PARISHES SEWERAGE SCHEME.

CONTRACT NO. 2.

The Council invites TENDERS for the ABOVE CONTRACT, comprising about 16 miles of 6in. dia. 1/2 mile of 7in. dia., 2 1/2 miles of 9in. dia., 1 1/2 miles of 12in. dia., and 3 miles of 15in. dia. Glazed Stoneware, Concrete and Spun Cast-Iron Sewers, 3 miles of 6in. dia. and 10in. dia. Bitteren, Sheet and Iron Rising Mains, and four Pumping Stations in Reinforced Concrete, together with all other ancillary works.

Drawings may be inspected at the Offices of the Council's Consulting Engineers, MESSRS. LEBON AND BILWARD, 29 Tufton Street, Westminster, S.W.1, and at the Engineer and Surveyor's Office, London Road, Chelmsford.

Tender documents may be obtained on or after Thursday, 3rd August, from the Consulting Engineers on payment of a deposit of £10 (Ten Pounds), by cheque, made payable to the Chelmsford Rural District Council. The deposit will be returned on receipt of a bona-fide Tender which is not subsequently withdrawn.

Alternative Tenders are called for, based on: (a) Fixed Price; (b) Variation of Price (Labour and Materials).

Tenders, together with the Bill of Quantities fully priced in ink, are to be returned to the undersigned, in a sealed envelope bearing no mark or indication of the sender, not later than Noon on FRIDAY, 6th October, 1961.

The Council does not undertake to accept the lowest or any Tender.

C. A. BOHANNON,
Clerk of the Council.
Council Offices,
New London Road,
Chelmsford,
Essex.

TIVERTON RURAL DISTRICT COUNCIL.
SILVERTON SEWERAGE AND SEWAGE DISPOSAL.

CONTRACT NO. 1.

The Council invite FIXED-PRICE TENDERS from contractors having experience in similar work, for the laying of approximately 16 miles of 6in. dia. 12in. dia. STONEWARE and CONCRETE SEWERS, together with the Construction of Concrete Manholes, a Storm Overflow Manhole, and all ancillary works, at SILVERTON, Devon.

Tender documents may be obtained from the Council's Consulting Engineers, MESSRS. HARVEY, MILES AND HAYES, 10 Richmond Road, Exeter, on and after Wednesday, 9th August, 1961, and at whose Office Plans may be inspected by appointment during normal office hours.

Applications are to be accompanied by a cheque for £5. 5s. made payable to the Tiverton Rural District Council. The Council have not previously carried out work for the Council or under the direction of the Engineers, by particulars of similar work executed, and the names and addresses of the Engineers concerned. The deposit will be refunded upon the receipt of a bona-fide Tender not subsequently withdrawn, and the return of all Tender documents.

Tenders are to be delivered in a plain sealed envelope, endorsed "Silvertown Sewerage—Contract No. 1," but bearing no name or mark of identification, to the undersigned not later than 12 Noon on TUESDAY, 29th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

R. L. PUGSLEY,
Clerk.

Council Offices,
Great House,
Tiverton, Devon.

CONTRACTS

BOROUGH OF EPSOM AND EWELL.
FOOTPATH REPAIRS, 1961.

The Corporation invite TENDERS from public works contractors for the REPAIR and SURFACING of FOOTPATHS in the CORPORATION RECREATION GROUNDS and other Properties.

Copies of the Specification Form of Tender and Bill of Quantities may be obtained from the office of COLIN COBBETT, M.I.C.E., M.I.M.E., Borough Engineer and Surveyor, Town Hall, Epsom, during normal working hours, upon payment of £2 2s. deposit. Deposits will be returned to contractors submitting a bona-fide Tender, subject to withdrawal.

Tenders must be delivered to me at the address mentioned below not later than Noon on MONDAY, 14th August, 1961, and no Tender will be received after this date. It is enclosed in a plain sealed envelope endorsed "Footpath Repairs, 1961." This envelope must not bear any mark or name indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,
Town Clerk.

Town Hall,
The Parade,
Epsom,
Surrey,
July, 1961.

BOROUGH OF WORKSOP.

PROPOSED WARDEN'S HOUSE, AGED PERSONS' MEETING ROOM, ETC.—RAYTON SPUR, WORKSOP.

FIRM-PRICE TENDERS are invited from building contractors, for the ERECTION of the ABOVE-MENTIONED BUILDING in KILTON HILL, WORKSOP.

Copies of the Plan, Specification and Form of Tender may be obtained from the Borough Engineer, Park House, Worksop, upon payment of a deposit of £3 3s., which will be refunded upon receipt of a bona-fide Tender and the return of all documents supplied.

Tenders, in the envelopes provided, must reach the undersigned not later than 10 a.m. on FRIDAY, 1st September, 1961.

The lowest or any Tender will not necessarily be accepted.

RUSSELL G. PHARAOH,
Town Clerk.

Town Hall,
Workshop,
21st July, 1961.

ESHER URBAN DISTRICT COUNCIL.

CONSTRUCTION OF CAR PARK AT KING GEORGE'S HALL, ESHER.

CONTRACT NO. 323.

TENDERS are invited for the ABOVE WORK, which comprises approximately 1,400 cu. yd. of Excavation and Hardcore, 400 lin. yd. of Kerbing, 3,000 sq. yd. of Surfacing in Tarmacadam, and various ancillary Works, such as Demolition of existing Out-buildings, Brickwork, Retaining Wall, Surface Water Drainage, etc.

Form and Tender Specification and Bills of Quantities may be obtained from the Engineer and Surveyor's Department, Council Offices, Esher, Surrey, upon payment of a deposit of £1 1s., which will be refunded upon receipt of a bona-fide Tender, together with return of all documents in good condition. Drawings showing the extent of the works may be inspected at the above address during normal office hours.

Tenders, on the prescribed form enclosed in the envelope provided, endorsed "Contract 323," and bearing no name or mark indicating the sender, must be returned to the undersigned not later than 5 p.m. on TUESDAY, 29th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

FREDERICK EDWARDS,
Clerk of the Council.

Council Offices,
Esher,
Surrey.

CHIGWELL URBAN DISTRICT COUNCIL.
LAMBOURNE ROAD—PROPOSED SOIL SEWER—STAGE II.

TENDERS are invited for approximately 330yd. of 6in. STONEWARE SEWERS and FIVE MANHOLES. Tender Form, Bills of Quantities and Specification on deposit of £2 2s. returnable after submission of bona-fide Tender, not afterwards withdrawn, and return of documents issued, may be obtained from the Engineer and Surveyor at the address below, where Drawings and Conditions of Contract may be inspected. Contract will be Fixed Price, providing for Fair Wages and Materials.

Tenders in plain envelope provided, bearing no mark indicating sender, to Clerk of the Council, Council Offices, Loughton, Essex, by 18th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

LLANFYLLIN RURAL DISTRICT COUNCIL.

MEIFOD SEWERAGE AND SEWAGE DISPOSAL SCHEME.

TENDERS are invited from contractors experienced in such work, for the LAYING of approx. 1,775yd. of 6in. STAIN GLAZED WARE PIPES and 800yd. of 4in. CAST-IRON PIPES, together with the Construction of three Pumping Stations, all necessary Manholes, House Connections, the Conversion of existing Pail Closets to Water Closets, and the Construction of a Sewage Disposal Works.

No increase or decrease will be made to the Contract for any variation of rates due to increases or decreases in the cost of materials or labour between the date of Tender and the completion of the Contract, and Tenders must be submitted on a Fixed-price Basis.

Conditions of Tender, Conditions of Contract, Specification, Bills of Quantities and Form of Tender can be obtained from the Office of the Consulting Engineers to the Council, MESSRS. WALLACE EVANS AND PARTNERS, 30 Stanwell Road, Penarth, Glamorgan, on payment of deposit of Ten Pounds which will be refunded on receipt of a bona-fide Tender (which is not affected by withdrawal), together with all documents furnished for tendering. Tenders can be seen by appointment at the Offices of the Engineers, 30 Stanwell Road, Penarth, and Church Bank House, Welshpool, or at the Offices of the Surveyor to the Council, Llanfyllin.

Tenders, sealed and endorsed "Meifod Sewerage and Sewage Disposal Scheme," should reach the undersigned not later than Midday on WEDNESDAY, the 20th September, 1961.

GLYN JONES,
Clerk of the Council.

R.D.C. Offices,
Llanfyllin, Mont.,
25th July, 1961.

CONTRACTS

BOROUGH OF WIDNES.
PACE LANE HOUSING SITE—ROADS AND SEWERS.

TENDERS are invited for the FOLLOWING WORK within the Borough of Widnes:

The Construction of Roads and Sewers at Page Lane Housing Site, consisting of approx. 860 lin. yd. of 6in. Lean Macadam, Carriageway Surfaced with 2in. Tarmacadam, 268 lin. yd. Concrete Kerbing, 130 lin. yd. of 9in. dia. Stoneware Sewers, together with Manholes, and other ancillary works.

Plans and General Conditions of Contract may be inspected at the Office of the Borough Engineer and Surveyor, Town Hall, Widnes, from whom copies of the Specification, Bill of Quantities and Form of Tender may be obtained on payment of Two Guineas deposit, refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelope provided, endorsed "Pace Lane Housing Site—Roads and Sewers," must be delivered to the undersigned not later than First Post on MONDAY, 21st August, 1961.

FRANK HOWARTH,
Town Clerk.

Town Hall,
Widnes,
July, 1961.

BOROUGH OF CHINGFORD.
DIESEL TANK AND EQUIPMENT.

TENDERS are invited for the SUPPLY and DELIVERY of ONE 600-GALLON OVERGROUND BULK STORAGE TANK FOR D.E.V., complete with all necessary Fixings and ONE FLOW METER or ONE CONSUMERS' PUMP.

Full particulars may be obtained from the Chief Public Health Inspector, Town Hall, Chingford, E.4, together with Form of Tender, which must be returned to me in the envelope provided, endorsed "Diesel Installations by Town Hall" on the 9th AUGUST, 1961. Tenders received after this date, or not returned in the official envelope, will not be considered.

C. G. DENNIS,
Town Clerk.

Town Hall,
Chingford, E.4.

CHICHESTER CITY COUNCIL.
MILL LANE PUMPING STATION.

FIXED-PRICE TENDERS are invited for the REPLACEMENT OF PUMPING MACHINERY and Control Gear, comprising three Sets of Pumps and Motors, at Mill Lane Pumping Station, to handle a maximum flow of 850 g.p.m. through an 8in. Rising Main 3,100ft. in length.

Tender documents may be obtained from the City Engineer and Surveyor on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tenders, in plain sealed envelopes endorsed "Mill Lane Pumping Station," bearing no mark of the sender, must be delivered to the undersigned not later than 26th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender, and the contractor whose Tender is accepted must be prepared to enter into a contract and bond in a form to be prepared by me.

ERIC BANKS,
Town Clerk.

Greyfriars,
North Street,
Chichester,
Sussex.

ALTON URBAN DISTRICT COUNCIL.
WHITEDOWN GARAGES—CONSTRUCTION OF HARDSTANDING.

TENDERS are invited for the CONSTRUCTION of approx. 65 sq. yd. of CONCRETE and 300 sq. yd. of MACADAM HARDSTANDING to GARAGES, and other ancillary work.

Specification and Bill of Quantities may be obtained from HUGH BURTON, A.M.I.Mech. Engineer and Surveyor, County Office, High Street, Alton, and Drawings can be inspected at his Office.

Tenders to be returned to the undersigned by 12 Noon on the 1st SEPTEMBER, 1961.

EWART N. INGS,
Clerk of the Council.

Council Offices,
High Street,
Alton, Hants.

ROTHERHAM RURAL DISTRICT COUNCIL.
FENCE SEWERAGE SCHEME.

TENDERS are invited, on a FIXED-PRICE BASIS, for the LAYING of 450yd. of 9in. CONCRETE PIPES, together with Manholes, RISING MAINS, comprising 44yd. of 8in. diameter and 14yd. of 6in. diameter Spun-Iron Pipes; the CONSTRUCTION of a PUMPING STATION, and other ancillary Works.

Tender documents may be obtained from the Council's Engineer and Surveyor on payment of a deposit of £3 5s. refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Drawings and Conditions of Contract can be inspected at the Council Offices during normal working hours.

Tenders, in plain sealed envelope endorsed "Tender—Fence Drainage," must be delivered to the undersigned not later than Noon on SATURDAY, 2nd September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

E. F. L. DANBURY,
Clerk to the Council.

Council Offices,
Moortgate,
Rotherham.

THE SOMERSET RIVER BOARD.
HUIH EPISCOPI PUMPING STATION
(NEAR LANGPORT).

The River Board will shortly be inviting TENDERS for the ABOVE WORKS, which comprise the Construction of a Pumping Station approx. 10ft. 20in. x 20ft. high, including an Access Road. Ancillary works consist of the Construction of a Precast Prestressed Concrete Bridge 60ft. span, and a Reinforced Concrete Box Culvert 16ft. 6in. long. Also a small amount of Channel Works and two small Penstock Structures. Contractors wishing to be included in the list of tenderers should apply to the Engineer to the Somerset River Board not later than Midday on FRIDAY, 11th August, 1961.

E. L. KELTING, O.D.E., J.P., M.I.C.E.,
The Somerset River Board,
The Watergate,
West Quay,
Bridgwater, Som.

CONTRACTS

BOROUGH OF BARNES.
RECONSTRUCTION OF CLIFFORD AVENUE, A.205
(PART).

TENDERS are invited for the RECONSTRUCTION of PART OF CLIFFORD AVENUE, A.205.

The Construction of the Carriageway will consist of approx. 4,700 sq. yd. of 4in. Hot Rolled Asphalt laid on 6in. Bitumen Macadam Base, and ancillary Kerbing and Footway Works.

The Form of Tender, Bill of Quantities and Specification may be obtained from the undersigned, to whom they should be returned, in the envelope provided, not later than First Post, TUESDAY, 29th August, 1961.

W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S.,
Borough Engineer and Surveyor.
Municipal Offices,
Sheen Lane, S.W.14.
July, 1961.

DARTON URBAN DISTRICT COUNCIL.
ENGINEER AND SURVEYOR'S DEPARTMENT.
TOWNGATE DRAINAGE SCHEME.

TENDERS are invited from experienced contractors for the CONSTRUCTION of a MAIN OUTFALL SEWER from the Towngate area of Staincross, comprising the Laying of approx. 325 lin. yd. of 24in. dia. Concrete Pipes, 450 sq. yd. of 18in. dia. Concrete Pipe, 25 lin. yd. of 18in. dia. Concrete Pipes, and 360 lin. yd. of 6in. dia. Salt Glazed Stoneware Pipes, together with 13 Manholes, a Storm Water Overflow Chamber, and all other incidental works connected therewith.

Copies of Drawings, Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Council's Engineer and Surveyor, at the address given below, or from MESSRS. HUSBAND AND CO., 388 Glossop Road, Sheffield, 10.

Tenders, in the envelopes provided, must be received by the undersigned not later than 12 Noon on MONDAY, the 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. E. SHACKLETON,
Clerk of the Council.
Council Offices,
Darton.
26th July, 1961.

URBAN DISTRICT COUNCIL OF GAINSBOROUGH.

NORTH STREET, GAINSBOROUGH—
WIDENING AND REALIGNMENT.

TENDERS are invited from contractors experienced in this class of work, for WIDENING and REALIGNMENT of approx. 220yd. of Road, which includes Kerbing, Channelling, Excavating, Pitching, Screening, and Tared Macadam, and ancillary works.

Forwards, Tenders, Conditions of Contract, Specification and Bills of Quantities may be obtained from the Engineer and Surveyor, Council Offices, Lord Street, Gainsborough, on deposit of sum of Two Pounds (by crossed cheque made payable to the Urban District Council of Gainsborough), which will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tenders, on the form supplied, enclosed in plain sealed envelope endorsed "North Street Widening," and bearing no mark or indication of the sender, should be delivered to the undersigned not later than Noon on WEDNESDAY, 30th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. P. DOREY,
Clerk of the Council.
Council Offices,
Lord Street,
Gainsborough.
July, 1961.

DEARNE URBAN DISTRICT COUNCIL.
ROAD AND SEWER CONTRACT—PREPARATION WORKS, FURLONG ROAD HOUSING ESTATE, GOLDSHORPE.

TENDERS, on a FIXED-PRICE BASIS, are invited for the FOLLOWING:

(a) The Construction, to Top of Shale and Limestone Base Level, of approximately 280 lin. yd. of Carriageway.
(b) The Construction of 680 lin. yd. of 6in. and 9in. 28. S.F. Four and Surface Water Sewers.

The Drawings may be inspected at the office of the Engineer and Surveyor, Council Offices, Station Road, Bolton-on-Dearne.

Copies of the Condition of Contract, Specification and Bill of Quantities may be obtained from the Engineer and Surveyor, at the above address, on payment of deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender or the return of all documents.

Tenders, in a plain sealed envelope endorsed "Tender for Road and Sewer Works, Furlong Road Housing Estate," must be delivered to the undersigned not later than mid-day on the 25th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. BISHOP,
Clerk of the Council.
Council Offices,
Bolton-on-Dearne,
Near Rotherham,
Yorkshire.

PONTYPOOL RURAL DISTRICT COUNCIL.
LLANHENNOCK WATER SCHEME.

TENDERS are invited for the PROVISION and LAYING of approximately 5,400yd. of 4in. diameter and 10,500yd. of 3in. diameter CAST-IRON PIPE, CONCRETE PIPES, and 10,000 GALLONS MASS CONCRETE SERVICE RESERVOIR and PUMPING STATION, together with other ancillary Works.

Copies of the Specification, Bill of Quantities and Form of Tender may be obtained from the Consulting Engineers, MESSRS. THOMAS AND MORGAN AND PARTNERS, 10, Station Road, Pontypool, on a payment of deposit of £3 5s. to be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Plans may be inspected at the office of the Council or the Consulting Engineers during normal working hours.

The Council do not bind themselves to accept the lowest or any Tender.

Tenders must be delivered to the undersigned in a plain envelope endorsed "Llanhenock Water Scheme," not later than Noon on THURSDAY, 24th August, 1961.

(Signed) PHILLIP E. JONES,
Clerk of the Council.
Pontypool R.D.C.,
Union Offices,
Pontypool,
Mon.

CONTRACTS

CONTRACTS

COUNTY BOROUGH OF DONCASTER.
PRIVATE STREET WORKS.

HIGHWAYS CONTRACT NO. 57.

TENDERS are invited for the MAKING-UP of the FOLLOWING PRIVATE STREETS:

St. Augustine's Road; St. George's Road; Prince's Road; Bridge Road; The Oval; The Avenue; Monkland Road; (part).

The proposed works comprise the Construction of approx. 1,275 lin. yd. of Surface Water Sewer 6in. to 18in. dia.; 2,700 lin. yd. of Kerb; 7,850 sq. yd. of Coated Macadam Surfacing to Carriageways (including the adhesion of existing pitched foundation); 3,750 sq. yd. of Paving and Footways, together with 25 Manholes, Gullies, and ancillary works.

Forms of Tender, Specification and Bills of Quantities may be obtained on payment of a deposit of £3 3s., returnable on receipt of a bona-fide Tender, from the Borough Engineer, 2 Priory Place, Doncaster, at whose Office the Conditions and Conditions of Contract may be inspected.

Tenders, sealed in an envelope bearing no mark indicating the identity of the sender, and endorsed "Tender for Private Street Works," are to be received at the Office of the undersigned, at the address given below, not later than 10 a.m. on FRIDAY, 25th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

H. R. WORMALD,
Town Clerk.
1 Priory Place,
Doncaster.
20th July, 1961.

BOROUGH OF WIDNES.

(A) CONSTRUCTION OF PUBLIC CONVENIENCE.
(B) EXTENSION OF GREENHOUSE.

Separate FIXED-PRICE TENDERS are invited for the ERECTION of: (a) Public Convenience, floor area 420 sq. ft., to be built in brick walls with timber roof and (b) the Extension of the existing large Greenhouse. Both are situated at VICTORIA PARK, Widnes.

Drawings and General Conditions of Contract (R.I.B.A. Form) may be inspected, and Forms of Tender may be obtained from the Borough Architect, Brandon House, West Road, Widnes.

Tenders on the forms provided, must be delivered to the undersigned, in the special envelope provided, without any distinguishing mark, not later than 10 a.m. MONDAY, 28th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

FRANK HOWARTH,
Town Clerk.
Town Hall,
Widnes,
July, 1961.

BOROUGH OF KEIGHLEY.
MORKIN BRIDGE IMPROVEMENT.

TENDERS are invited for the EXTENSION of a SMALL BRIDGE, including approximately 150 cu. yd. of Stone-faced Mass Concrete Wall and approximately 20 cu. yd. of Reinforced Concrete, and some Road-works.

Contract documents may be obtained from the Borough Engineer and Surveyor, College Street, Keighley, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender. Plans may be inspected at the office of the Borough Engineer.

Tenders, in the sealed envelope provided, must be delivered to the undersigned not later than 10 a.m. on MONDAY, 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. CAESAR,
Town Clerk.
Town Hall,
Keighley.

BOROUGH OF MOSSLEY.
ROAD RESURFACING WORKS.

TENDERS are invited for the SUPPLY, DELIVERY and LAYING of approximately 13,000 super. yd. of TWO-COURSE and SINGLE-COURSE BITUMINOUS MACADAM, to be used for the Surfacing of County and District Roads within the Borough.

Contractors wishing to Tender should apply to the Borough Engineer and Surveyor, Town Hall, Mossley, enclosing a Specification, Schedule and Form of Tender, enclosing a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders to be forwarded to the undersigned in a plain sealed envelope not later than Noon on TUESDAY, 29th August, 1961, endorsed "Resurfacing Contract."

The Corporation does not bind itself to accept the lowest or any Tender.

V. C. PROCTER,
Town Clerk.
38 Manchester Road,
Mossley.

CORPORATION OF LONDON.

TENDERS are invited, within 14 days, for the REMOVAL UNDER CONTRACT of MANURE from the ABATTOIR and Lairages of the METROPOLITAN CATTLE MARKET, Islington, N.7.

Approx. 300 loads annually from each of the above, obtainable from the CLERK AND SUPERINTENDENT, Telephone: NORTH 2488.

GUILDFORD, GODALMING AND DISTRICT WATER BOARD.

BOREHOLES AT NETLEY MILL.

The Board invite TENDERS from suitably experienced contractors for the SINKING, LINING and TESTING of FOUR BOREHOLES in the LOWER GREENSAND at NETLEY MILL, Gomshall, Surrey. The Boreholes will be approximately 250ft. deep and 27in. outside diameter, with Graded Gravel Filter and 12in. diameter Lining Tubes.

Specification, Bills of Quantities and Form of Tender may be obtained on application to the Chief Engineer, Branksome, Filmer Grove, Godalming, on payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender and the return of all documents.

The site and General Conditions of Contract may be inspected by appointment with the Chief Engineer.

Sealed Tenders, in plain envelopes endorsed "Tender for Boreholes at Netley Mill," must reach the undersigned not later than 12 Noon on MONDAY, 4th September, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

HERBERT C. WELLER,
Clerk to the Board.
Municipal Offices,
High Street,
Guildford.

CONTRACTS

HAMPSHIRE COUNTY COUNCIL.

COUNTY ROADS AND BRIDGES DEPARTMENT.

ANDOVER RURAL DISTRICT.

TRUNK ROAD, A.303—BULLINGTON RAILWAY BRIDGE - BARTON STACEY CAMP.

TENDERS are invited for the REALIGNMENT and RECONSTRUCTION of approx. 1 mile of the ABOVE ROAD, together with the Provision of a Second Carriageway.

The works include the Construction of a New Bridge in Steel and Concrete (R.S.I.S) over the Railway, together with Approach Roads, Excavation, Filling, Surface Water Drainage, Road Foundations in Gravel, Lean Concrete (or Drystone), Bituminous Macadam, Contracting, and all other incidental works.

Applications for particulars should be received on or before 12th August, 1961.

The Council do not undertake to accept the lowest or any Tender.

H. N. JENNER,
County Surveyor.

The Castle,
Winchester.

COUNTY BOROUGH OF SUNDERLAND.

CONTRACTS FOR MATERIALS.

TENDERS are invited for the SUPPLY of the FOLLOWING for six months commencing first day of October next:

- (1) Steel Wire Reinforcement for Concrete.
- (2) Decorating Materials (Paint, etc.).
- (3) Earthware Pipes, Junctions, etc.
- (4) Rainwater and Soil Goods.
- (5) Timber.
- (6) Kerbs and Flags.
- (7) Portland Cement.
- (8) Bitumen Macadam, Broken Stone, Sand, etc.
- (9) Gullies, Manhole Covers, Firegrates, etc.

Samples may be seen at Eden Vale Depot, Sunderland.

Specifications and Forms of Tender from the Public Works Manager, Ivor House, 1 and 3 Otto Terrace, Sunderland.

No Tender will be considered unless enclosed in a sealed envelope marked "Tender," followed by the subject to which it relates, addressed to me, Town Hall, Sunderland, and delivered at my Office by 10 a.m. on SATURDAY, 12th August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

G. S. MCINTIRE,
Town Clerk.

COUNTY BOROUGH OF ST. HELENS.

MILL LANE (B.5204) IMPROVEMENT.

CONTRACT 2170.

TENDERS are invited for the RECONSTRUCTION and WIDENING of approx. 1,000yd. of MILL LANE, from Clock Face Road to Leach Lane.

The works comprise Excavation, Surface Water Drainage, Construction of Carriageway, and Flaged Footways.

Form of Tender, Specification and Bills of Quantities may be obtained from this Department on or after 8th August, 1961, on payment of £2 2s. deposit, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Drawings and Conditions of Contract (Civil Engineering) may be inspected at this Office.

Tenders, sealed in the endorsed envelope provided, are to be returned to the Town Clerk, Town Hall, St. Helens, not later than MONDAY, 18th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

M. WARD, M.I.Mun.E.,
Borough Engineer and Surveyor.

Town Hall,
St. Helens.

FULWOOD URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP the FOLLOWING STREET:

Aubigny Drive, Causeway Avenue, Banks Road: Woodside Avenue.

Drawings and General Conditions may be seen at, and Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Town Hall, in the address below, on payment of a deposit of Two Guineas, which is refundable upon receipt of a bona-fide Tender.

Sealed Tenders, in the envelope provided, must be returned not later than First Post on THURSDAY, 7th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. D. S. COTMAN,
Clerk of the Council.

Council Offices,
Garstang Road,
Fulwood, Lancs.

EBBW VALE URBAN DISTRICT COUNCIL.

ENGINEER AND SURVEYOR'S DEPARTMENT.

HIGHWAY MAINTENANCE, 1961/62.

RENEWAL OF KERBS AND RESURFACING FOOTWAYS.

The above-mentioned Council invite TENDERS for the FOLLOWING:

The Taking-up of existing, and Laying new, Kerbs: Taking-up existing, and Laying new, Paving Slabs; and Surfacing existing Footways in Bituminous Macadam and Fine Cold Asphalt, together with Draining and ancillary works.

The works are to be carried out on several streets or roads distributed throughout the Urban Area.

Approx. quantities are: Kerbing, 4,100 lin. yd.; Paving, 6,200 sq. yd.; and 1,700 sq. yd.; and Bituminous

Specification and Bills of Quantity may be obtained from J. M. DAVIES, B.Sc., A.M.I.Mun.E., Engineer and Surveyor, District Council Offices, The Walk, Ebbw Vale, Mon., on payment of a deposit of £2 2s., refundable on receipt of a bona-fide Tender.

Tenders, sealed in the envelope provided, to be received by the undersigned not later than 12 Noon on 19th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. J. WILLIAMS,
Clerk of the Council.

District Council Offices,

The Walk,
Ebbw Vale, Mon.

22nd July, 1961.

CONTRACTS

BOROUGH OF TOTTENHAM.

TENDERS are invited for a Period Contract for all Redevelopment DEMOLITION WORKS in the Borough.

The Contract will extend over 18 months, and orders will be issued to the contractor as properties become due for vacation. Payment will be made on a scale related to the cubic capacities of the buildings involved.

Firms wishing to tender can obtain Contract documents (on deposit of £2) from the Borough Engineer, Town Hall, Tottenham, N.15.

Tenders shall be returned not later than MONDAY, 21st August, 1961.

The Council do not undertake to accept the lowest or any Tender.

M. LINDSAY TAYLOR,
Town Clerk.

BOROUGH OF SCARBOROUGH.

HOLBEC HILL RELIEF SEWER.

TENDERS are invited for the CONSTRUCTION of approx. 210yd. of a 24in. dia. SEWER in Reinforced Concrete Pipes along Holbec Hill in tunnel at an average depth of 35ft., and incidental works thereto.

Specification, Bills of Quantities, Conditions of Contract and Form of Tender may be obtained on payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender. Drawings may be inspected at the Office of the undersigned.

Tenders, which should be enclosed in a plain sealed envelope endorsed "Tender for Holbec Hill Relief Sewer," must be received by the undersigned not later than 10 a.m. on FRIDAY, 18th August, 1961.

J. FORSHAW,
Borough Engineer and Surveyor.

BOROUGH OF SURBITON.

MIDDLETON ESTATE—PHASE 4—SURBITON. ERECTION OF 32 HOUSES.

Contractors are invited to submit their names for permission to TENDER for the ABOVE-MENTIONED ERECTION WORKS.

The Contract comprises the Construction of 32 Traditional type Houses in pairs and terraces.

The Architect is CLIFFORD CULPIN, O.B.E., F.R.I.B.A., M.T.P.I., and the Quantity Surveyors, DEARLE AND HENDERSON.

The contractors should indicate in their applications, details of the works for which they have enclosed, and names and particulars should be received by the undersigned not later than Noon on 18th August, 1961.

Bills of Quantities will be posted out on 4th September, and Tenders will be due in on FRIDAY, 6th October, 1961.

JOHN H. A. CRUNNELL,
Town Clerk.

Council Offices,
Surbiton.

CITY OF SHEFFIELD.

SOCIAL CARE DEPARTMENT.

SUPPLY OF FURNITURE, CARPETS, ETC.

TENDERS are invited for the SUPPLY of ITEMS of LOUNGE, BEDROOM, DINING ROOM, FURNITURE, CARPETS, etc., for a newly constructed Home for Old People in LEIGHTON DRIVE, GLEADLESS, Sheffield.

Persons wishing to tender may obtain the necessary forms on application to the Chief Welfare Officer of the Social Care Department, Castle Market Building, Exchange Street, Sheffield, 1.

Tenders must be delivered to the Town Clerk, Town Hall, Sheffield, 1, not later than 10 a.m. on THURSDAY, 31st August, 1961.

Tenders received after the date and time specified will not be considered.

The Council do not undertake to accept the lowest or any Tender, and reserve the right to accept a Tender in its entirety or in respect of certain items or portions of items comprised therein.

JOHN HEYS,
Town Clerk.

Town Hall,
Sheffield, 1.

26th July, 1961.

THE NORTHWICH RURAL DISTRICT COUNCIL.

PROPOSED SEWERAGE AND SEWAGE DISPOSAL SCHEME—TENDERS.

TENDERS are invited for the FOLLOWING:

Construction of one Settling Tank; two Filters; two Humus Tanks; five Sludge Drying Beds; two Pumping Stations; 730 lin. yd. of 9in. dia. Asph.-coated Pipe; 1,100 lin. yd. of 9in. dia. Glazed Stoneware Pipes; 2,320 lin. yd. of 6in. dia. Glazed Stoneware Pipes, and other works in the Parish of Acton, near Northwich.

Copies of the Specification, Bills of Quantities and Form of Tender may be obtained from the Office of the Engineer and Surveyor, Whitegate, Hartford, Northwich, where the Drawings may be inspected upon payment of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of the documents.

Tenders must be enclosed in the envelope, enclosed with the Tender documents, and must bear no name or mark, indicating the sender, and must be delivered not later than 10 a.m. on THURSDAY, the 7th of September, 1961, to the CLERK OF THE COUNCIL, Whitehall, Hartford, Northwich, Cheshire.

The Board does not bind itself to accept the lowest or any Tender.

R. C. CHAPMAN, A.M.I.C.E., A.M.I.W.E., Engineer and Manager.

45 South Street,
Bridport, Dorset.

26th July, 1961.

WEST DORSET WATER BOARD.

WATER MAIN—DOTTERY TO BRADPOLE.

CONTRACT NO. 15.

TENDERS are invited, on a Fixed-price Basis, from experienced public works contractors for the LAYING of about 2,900yd. of 8in. WATER MAINS using Spun-iron Pipes.

Applications for Contract documents should be accompanied by a deposit cheque for £2 2s. which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes clearly marked "Contract No. 15," must be delivered to the undersigned not later than Noon on the 1st SEPTEMBER, 1961.

The Board does not bind itself to accept the lowest or any Tender.

R. C. CHAPMAN, A.M.I.C.E., A.M.I.W.E., Engineer and Manager.

45 South Street,
Bridport, Dorset.

26th July, 1961.

CONTRACTS

COUNTY COUNCIL OF DURHAM.

TENDERS are invited for the SUPPLY to SCHOOLS OF WOODWORK and METALWORK MACHINES and EQUIPMENT.

Forms of Tender, returnable by 25th AUGUST, 1961, and details from undersigned.

G. H. METCALFE,
Director of Education.
Shire Hall,
Durham.
24th July, 1961.

BOROUGH OF SHREWSBURY.

BELVIDERE DRAINAGE SCHEME.

TENDERS invited for CONSTRUCTION of TWO SURFACE WATER SEWERS and a FOUL SEWER comprising following approx. quantities: 450 lin. yd. 12in. dia. Concrete Pipe; 700 lin. yd. total of 15in., 12in., and 9in. Concrete Pipe; 300 lin. yd. 9in. S.G.W. Pipe, with Inverted Siphon, Sun-iron Pipe under railway, and appurtenant Manholes.

Drawings and General Conditions of Contract inspected at Offices, and Tender documents obtained from Borough Surveyor, Guildhall, Shrewsbury, on payment of deposit of £2 2s., returnable on receipt of bona-fide Tender.

Tenders to be returned to the undersigned, in envelope provided, not later than 10 a.m., MONDAY, 11th September, 1961.

S. R. H. LOXTON,
Town Clerk.
Guildhall,
Shrewsbury.

BOROUGH OF BARKING.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

EAST STREET BATHS, BARKING.

TENDERS are invited for DISMANTLING and REMOVING FROM SITE TWO SPENCER-HOPWOOD BOILERS.

Specifications and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Barking, and returned to The Worshipful the Mayor, Town Hall, Barking, Essex, in the envelope provided, not later than 9 a.m., MONDAY, 4th September, 1961.

E. R. FARR,
Town Clerk.
Town Hall,
Barking.

BOROUGH OF BARKING.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

TWO THREE-PASS WET BACK HORIZONTAL PACKAGE BOILERS.

TENDERS are invited to SUPPLY, ERECT and PUT INTO SERVICE TWO THREE-PASS WET BACK HORIZONTAL PACKAGE BOILERS, complete with Fully Automatic Rotary Cup type Oil-firing Equipment and Oil Tank.

Specification and Form of Tender may be obtained from the Borough Engineer and Surveyor, Town Hall, Barking, and returned to The Worshipful the Mayor, Town Hall, Barking, Essex, in the envelope provided, not later than 9 a.m., MONDAY, 4th September, 1961.

E. R. FARR,
Town Clerk.
Town Hall,
Barking.

BOROUGH OF BASINGSTOKE.

HOUNDMILLS INDUSTRIAL ESTATE—PHASE II.

TENDERS are invited for the CONSTRUCTION of ROADS and SEWERS at the ABOVE SITE.

The work includes the Construction of approx. 5,000 sq. yd. of 8in. Lean-Mix Concrete Carriageway with Bituminous Macadam Surfacing, together with 1,100 lin. yd. of Precast Concrete Kerbing; the Laying of 500 lin. yd. of 6in. in 12in. dia. Surface Water Sewers, and the Laying of 260 lin. yd. of 6in. Foul Water Sewers.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Surveyor, Municipal Buildings, Basingstoke, Hants, on payment of a £2 2s. deposit which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned, in plain sealed envelope endorsed "Tender for Hounds-mills Industrial Estate—Phase II," not later than Noon on FRIDAY, 1st September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. J. PURVIS,
Town Clerk.
Municipal Buildings,
London Road,
Basingstoke.
27th July, 1961.

CITY OF BRADFORD.

SEWAGE DEPARTMENT.

DEMOLITION OF ACID PLANT.

TENDERS are invited from experienced plant-dismantling contractors, for the DEMOLITION of the OLD SULPHURIC ACID PLANT at the Corporation's ESHOLT SEWAGE DISPOSAL WORKS, and the Disposal of the resulting Scrap and Surplus Material.

Form of Tender and Conditions of Contract may be obtained from the Engineer and Manager, Esholt Hall, near Shipley, Yorkshire.

Tenders must be received by the undersigned not later than 9 a.m. on FRIDAY, the 1st September, 1961.

HENRY PATTEN,
Town Clerk.
Town Hall,
Bradford, 1.

THE URBAN DISTRICT COUNCIL OF ABERDARE.

HOUSING SITE PREPARATION WORKS.

TENDERS are invited for the SITE PREPARATION WORKS for the SECOND STAGE of the MAESGWYN HOUSING SITE.

Specifications and Tender Forms, etc., may be obtained from the Engineer and Surveyor, Vestry Hall, Aberdare, on payment of Two Guineas which will be returned in exchange for a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes bearing no mark or indication of the sender, but endorsed "Site Works—Maeswyn," must reach me on or before FRIDAY, 25th August, 1961.

D. G. JAMES,
Clerk of the Council.
Town Hall,
Aberdare.
27th July, 1961.

CONTRACTS

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for a NUMBER of SMALL IMPROVEMENT SCHEMES in VARIOUS PARTS of the County.

The work consists chiefly of Footpath, Kerbing and Carrigeway Works, Erection of Brick Garden Walls, and Fencing.

Further details and Forms of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date: 24th AUGUST, 1961.
JOHN A. CHATTERTON,
Clerk of the County Council.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for the RECONSTRUCTION of a SECTION of ROUTE A.453, at Measham, for a length of approx. 40yd.

Further details and Forms of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date: 24th AUGUST, 1961.
JOHN A. CHATTERTON,
Clerk of the County Council.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for the ERECTION ONLY of approx. 8,000yd. CLEFT CHESTNUT PALE SNOW FENCING on VARIOUS SITES in the WESTERN AREA of the County.

Further details and Forms of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date: 24th AUGUST, 1961.
JOHN A. CHATTERTON,
Clerk of the County Council.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for KERSING, FOOTPATH and DRAINAGE WORK in small Schemes in VARIOUS PARTS of the WESTERN AREA of the County.

Further details and Forms of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date: 24th AUGUST, 1961.
JOHN A. CHATTERTON,
Clerk of the County Council.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for the RECONSTRUCTION and DIVERSION of a SECTION of ROUTE A.6, at Wooden Bridge Corner, Market Harborough, for a total length of 940yd.

Further details and Forms of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5.

Closing date: 24th AUGUST, 1961.
JOHN A. CHATTERTON,
Clerk of the County Council.

WILTSHIRE COUNTY COUNCIL.

ACCOMMODATION WORKS AT WROUGHTON HIGH STREET, ROUTE A.361.

TENDERS invited for SITE CLEARANCE, EXCAVATION, CONSTRUCTION of VARIOUS WALLS, ERECTION of FENCING, etc.

Documents obtainable from the County Surveyor, County Hall, Trowbridge, and Drawings may be inspected at this address during normal working hours.

Tenders, in envelopes provided, bearing no name or mark indicating origin, to be returned by 5.15 p.m. on 28th AUGUST.

R. P. HARRIES,
Clerk of the County Council.

BOROUGH OF BROMLEY, KENT.

NORMAN PARK PAVILION.

TENDERS are invited for the CONSTRUCTION of a SPORTS PAVILION at Norman Park, Bromley, comprising three Changing Rooms, Referees' Rooms, Showers and a fully equipped Kitchen.

Drawings and Conditions of Contract may be inspected at the Office of the Borough Engineer, Municipal Buildings, Bromley.

Contractors wishing to tender should apply to the Borough Engineer for Bills of Quantities and Form of Tender not later than the 14th AUGUST, 1961.

The Council does not bind itself to accept the lowest or any Tender.

LIONEL KAYE,
Town Clerk.

CATERHAM AND WARLINGHAM URBAN DISTRICT COUNCIL.

DEMOLITION OF PROPERTIES.

TENDERS are invited for the DEMOLITION and SITE CLEARING of the FOLLOWING PROPERTIES:

(a) Nos. 83-89 Godstone Road, Caterham.

(b) Nos. 34-54 Farningham Road, Caterham.

(c) Nos. 75-83 Coniston Road, Caterham.

Specifications and Forms of Tender may be obtained from the Engineer and Surveyor, Council Offices, Caterham, and completed Tenders should reach the undersigned not later than 4 p.m. on TUESDAY, 5th September, 1961.

B. J. SMERDON,
Clerk of the Council.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

CAR PARK—BURLINGTON PARADE, HIGH STREET CHISLEHURST.

Names and addresses of contractors desirous of TENDERING for 1,000 sq. yds. of TARMACADAM SURFACING on HARDCORE, KERBING, 130 lin. yds. of 24in. SURFACE WATER SEWER, MANHOLES and appurtenances work to Surveyor, Manor House, Sidcup, with Two Guineas deposit, by 11th AUGUST, 1961.

T. W. FAGG,
Clerk of the Council.

SIDCUP PLACE, SIDCUP, KENT.

CONTRACTS

CONTRACTS

COUNTY BOROUGH OF GT. YARMOUTH.

RENEWAL OF SEA WATER PUMPING PLANT—
THE JETTY GREAT YARMOUTH.

TENDERS are invited for the SUPPLY, DELIVERY and ERECTION of PUMPING PLANT for providing Sea Water to the Swimming Pool and Boating Lakes. The Contract includes for a Pump (capacity approx. 2,000 g.p.m. against a head of approx. 45ft., and flows against greater heads), Electric Motor, Priming Equipment, Suction and Electrical Control Gear.

Particulars relating to the proposed plant may be obtained from the Borough Engineer, Town Hall, Great Yarmouth, Norfolk, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders, sealed in the envelope provided, must reach me not later than MONDAY, 4th September, 1961.

The Corporation does not bind itself to accept any Tender.

FARRA CONWAY,
Town Clerk.

Town Hall,
Great Yarmouth.
24th July, 1961.

COUNTY BOROUGH OF GT. YARMOUTH.

DEMOLITION AND REBUILDING OF THE JETTY AND SEA WATER PUMP HOUSE, GT. YARMOUTH.

TENDERS are invited for the DEMOLITION of the JETTY AND SEA WATER PUMP HOUSE, and their REBUILDING, including Suspension of approx. 200 lin. yds. of 12in. dia. Cast-Iron Delivery Main under the proposed Jetty; Alterations to the existing Cast-Iron Pumping Mains, and ancillary works.

Tenders are invited to submit designs for the Jetty Construction, using materials and methods they have available.

Specification, Bills of Quantities and Form of Tender may be obtained from the Borough Engineer, Town Hall, Great Yarmouth, Norfolk, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders, sealed in the envelope provided, must reach me not later than WEDNESDAY, 6th September, 1961.

The Corporation does not bind itself to accept any Tender.

FARRA CONWAY,
Town Clerk.

Town Hall,
Great Yarmouth.
24th July, 1961.

SOUTHAMPTON COUNTY BOROUGH COUNCIL.

TENDERS for the SUPPLY of a TWIN-SCREW DIESEL-ENGINED FIRE BOAT, with Equipment.

Write for particulars to CHIEF FIRE OFFICER, Fire Brigade Headquarters, St. Mary's Road, Southampton.

Tenders returnable by 9th OCTOBER, 1961.

BOROUGH OF STAFFORD.

CAMBRIDGE STREET RELIEF SURFACE WATER SEWER.

TENDERS are invited for the CONSTRUCTION of approx. 900 lin. yds. of 9in.-24in. dia. STORM WATER SEWER in Flexible Jointed Concrete Pipework, complete with approx. 15 Manholes, and ancillary works.

Tender documents can be obtained from T. H. HIGSON B.Sc., A.M.I.C.E., Borough Surveyor, Mount Street, Stafford.

Completed Tenders should be returned to the undersigned by 10 a.m. on THURSDAY, 31st August, 1961.

(Signed) T. BROUGHTON NOWELL,
Borough Hall,
Stafford.

DROITWICH BOROUGH COUNCIL.

DROITWICH SEWERAGE AND SEWAGE DISPOSAL.

CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of about 530 lin. yds. of GLAZED STONEWARE and SPUN-IRON PIPE 9in. in dia. with Manholes, about 1,050 lin. yds. of Spun-Iron Temporary Rigid Main 9in. dia. to a Temporary Pumping Station, an additional Sedimentation Tank, an Earth Bank Sludge Lagoon and incidental works, in accordance with the Drawings, Specification and Bills of Quantities prepared by the Engineers, A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

Particulars may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Offices of the undersigned, or of the Engineers, on or after the 14th August, 1961, on a payment of a deposit of Five Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied and in the endorsed envelope provided, are to be delivered to me at my Office not later than Noon on the 8th SEPTEMBER, 1961.

The Council does not undertake to accept the lowest or any Tender.

S. G. FOSTER,
Town Clerk.

Town Hall,
Droitwich, Worcs.
27th July, 1961.

LEEDS CITY POLICE.

The WATCH COMMITTEE invite TENDERS for the SUPPLY of POLICE UNIFORM CLOTHING, CAPS, HELMETS, SHIRTS, BLOUSES, COLLARS, AND TIES (MAN AND WOMAN), GLOVES, GARDENING RAIN-COATS, MARKINTOSHES, for the year 1962.

Particulars as to quantities required, the date on which the goods have to be delivered, and the Forms of Tender may be had on application to the undersigned.

Samples of garments may be seen at the Police Clothing Stores, 40 Park Lane, Leeds, 1.

Tenders must be delivered at the Town Clerk's Department, Room 57, Civic Hall, Leeds, 1, not later than 10 a.m. on the 4th SEPTEMBER, 1961, and must be enclosed in a plain sealed envelope bearing no name or mark to identify the tenderer, and addressed to the Clothing Committee, c/o Town Clerk, Room 57, Civic Hall, Leeds, 1, and endorsed "Tender for Police Clothing."

ALEX. J. PATERSON,
Chief Constable.

The Chief Constable,
Chief Constable's Office,
Municipal Buildings,
Leeds, 1.

CONTRACTS

CONTRACTS

COUNTY BOROUGH OF PRESTON.

REFUSE DISPOSAL TRANSFER STATION,
ARGYLL ROAD, PRESTON.

REINFORCED CONCRETE BORED PILING TO FOUNDATIONS.

Contractors wishing to be considered for inclusion on a list of firms from whom TENDERS may be invited for BORED PILING in connection with the above Contract, should submit their names to the Borough Engineer and Surveyor, Municipal Building, Preston, not later than the 31st AUGUST, 1961.

W. E. E. LOCKLEY,
Town Clerk.

BOROUGH OF ILFORD.

RESURFACING OF FOOTPATHS IN PARKS.

The CORPORATION invite TENDERS for the RESURFACING of FOOTPATHS, comprising approx. 4,300 sq. yds. of Con Asphalt, together with Incidental works, in PARKS in the BOROUGH OF ILFORD.

Conditions of Contract may be inspected and Special Conditions, Specification, Bills of Quantities and Form of Tender obtained on application in writing to the Borough Engineer and Surveyor, Town Hall, Ilford.

Applications must be accompanied by a deposit of Two Guineas which is returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, in an envelope which will be provided, bearing no indication of the tenderer, and endorsed "Tender for Resurfacing of Paths in Parks," must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on TUESDAY, 22nd August, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

BOROUGH OF TAUNTON.

TAUNTON LIVESTOCK MARKET—
REORGANISATION OF CATTLE SECTION.

Contractors are invited to submit their names for consideration for the GENERAL BUILDING WORKS, comprising Demolition of Pens and Buildings, Demolition Works, Walls and Concrete, Flooring, and ancillary building work, in connection with the Reorganisation of the Cattle Section at the Livestock Market, Priory Bridge Road, Taunton. This will be carried out in stages over approx. a year, probably commencing in November, 1961.

The Supply and Erection of Pens and Pre-cast Concrete Frames and Roofs to Sale Rings, the Provision of Pen Covers, Water Supplies, Guillotines, Lighting, Amplifying Equipment, and Sale Ring Stands will be undertaken by nominated subcontractors, and provisions for these will be included as prominent items in the General Work Contract. Contractors should apply to the Borough Engineer, St. Paul's House, Taunton, not later than 9th AUGUST, 1961, enclosing a deposit of Two Guineas which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn, or, in the event of the contractor not being selected, it is anticipated that Bills of Quantities will be sent out on 19th August for TENDERS to be submitted by 11th SEPTEMBER, 1961.

K. A. HORNE,
Town Clerk.

BOROUGH OF WORKSOP.

TENDERS are invited for the MACHINE SURFACING of approx. 1,700 sq. yds. of CARRIAGEWAY in the BOROUGH of Worksop.

Particulars may be obtained from the Borough Engineer, Park House, Worksop.

Closing date for Tenders: 14th AUGUST, 1961.
RUSSELL C. PHARAOH,
Town Clerk.

Town Hall,
Worksop, Notts.

BOROUGH OF POOLE.

FLEETS BRIDGE SEWAGE PUMPING STATION.

TENDERS are invited for the SUPPLY and ERECTION of PUMPS and Ancillary Equipment.

Details from the Borough Engineer, Municipal Buildings, Poole.

Tenders to me by Noon, 21st AUGUST, 1961.
J. G. HILLIER,
Town Clerk.

Town Hall,
Poole.

CITY OF LEICESTER.

DEMOLITION AND CLEARANCE WORKS—
COMPULSORY PURCHASE ORDER, 1959.

LEICESTER CORPORATION AREAS NOS. 231 & 232.

FIXED-PRICE TENDERS are invited from experienced contractors for the DEMOLITION and CLEARANCE of 183 PROPERTIES in Curzon Street, Upper Brook Street, Market Street, Montreal Road, St. John Street and Taylor Street, consisting mainly of terraced blocks of houses.

Full details and Forms of Tender are obtainable from the undersigned on payment of One Guinea, refundable on receipt of a bona-fide Tender.

Tenders are to be returned, in the official envelope provided, by 4.30 p.m. on THURSDAY, 24th August, 1961.

JOHN L. BECKETT, M.I.C.E.,
City Surveyor.

Town Hall,
Leicester.

CITY OF MANCHESTER.

TENDERS invited for FOUNDATIONS and FINISHING WORKS for Temporary Classrooms at the HOLY NAME R.C. PRIMARY SCHOOL, Chorlton-on-Medlock.

Specification and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 22nd AUGUST.

COVENTRY CORPORATION.

TENDERS are invited for WIDENING and RECONSTRUCTION of ANSTY ROAD, between the junction with Clifford Bridge Road and Woodway Lane.

The work includes approx. 5,000 sq. yds. Lean-Mix Concrete Base, 7,500 sq. yds. Bituminous Surfacing, 360 lin. yds. of S.W. Sewer up to 30in. dia., and the reconstruction of existing Bridges over Rivers. Sowe and Reconstruction of Steel Beams and Reinforced Concrete (skew span 42ft.), Kerbing, Footways, and all ancillary work.

Documents may be obtained from the CITY ENGINEER, Council House, Coventry, on payment of £5, returnable on receipt of bona-fide Tender by Noon on MONDAY, 26th August.

CONTRACTS

BOROUGH OF SURBITON.

RESURFACING OF A.240, KINGSTON ROAD (PART).

TENDERS are invited for the RESURFACING of PART of KINGSTON ROAD with Hot Roiled Asphalt, in accordance with the Specification, Bill of Quantities and General Conditions of Contract, which may be obtained from the Office of R. THIRLWAY, M.I.Mun.E., M.I.Struct.E., Borough Engineer and Surveyor, Council Offices, Ewell Road, Surbiton, Surrey.

Tenders, sealed in the envelope provided, enclosed in the endorsed envelope provided, and bearing no name or mark indicating the sender, must be delivered to the undersigned and received by him not later than 5 p.m., MONDAY, 21st August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

JOHN H. A. CRUNELL,
Town Clerk.

WANDSWORTH BOROUGH COUNCIL.

CONVERSION WORKS—CLAPHAM.

Contractors wishing to TENDER for CONVERSION of LARGE RESIDENTIAL PROPERTY into FLATS should submit names to me by 17th AUGUST, 1961, giving details of experience, plant, and technical and supervisory staff available, together with names of two technical and two financial referees.

Bills of Quantities will be issued to selected contractors in due course.

Drawings may be examined at the Borough Engineer and Architect's Department at this address.

J. NOEL MARTIN,
Town Clerk.Municipal Buildings,
Wandsworth, S.W.18.

BOROUGH OF WREXHAM.

SUPPLY AND DELIVERY OF DUSTBINS AND COVERS.

TENDERS are invited for the SUPPLY and DELIVERY to the CORPORATION DEPOT of 300 GALVANISED DUSTBINS and COVERS of 2½ cu. ft. capacity, to British Standard Specification 792/47.

For Tenders can be obtained on application to the Borough Engineer and Surveyor, Guildhall, Wrexham.

Tenders to be returned, in the envelope provided, to the undersigned not later than Noon on FRIDAY, 18th August, 1961.

PHILIP J. WALTERS,
Town Clerk.Guildhall,
Wrexham.

CITY AND COUNTY OF LICHFIELD.

STAFFORD-TAMWORTH ROAD, A.51.

TENDERS are invited for the BURNING and PLANING of the EXISTING CARRIAGEWAY in HOT-ROLLED ASPHALT, approximately 4,600 sq. yds., and certain Foundation Works.

Tender documents may be obtained from the City Engineer and Surveyor, 62 Wade Street, Lichfield, upon payment of £1 1s., returnable upon receipt of a bona-fide Tender.

Tenders, together with the Bill of Quantities, fully priced in ink, are to be returned to the undersigned in a sealed envelope not later than 12th AUGUST, 1961.

The Council does not undertake to accept the lowest or any Tender.

HENRY J. CALLENDER,
Town Clerk.Guildhall,
Lichfield,
Staffordshire.
July, 1961.

HINCKLEY URBAN DISTRICT COUNCIL.

TRUNK ROAD A.47—SHILTON HILL DIVERSION.

The Council invite TENDERS for the ABOVE SCHEME, comprising the Construction of a 600' wide Road, 800' long, and 100' wide, with 10' wide shoulders, to the Specification. Bills of Quantities and Forms of Tender may be obtained from, and Drawings inspected at, the office of the Surveyor, Argent House, St. Mary's Road, Hinckley, upon payment of a deposit of £2, refundable after receipt of a bona-fide Tender and return of documents.

Tenders are to be sealed in the envelope provided and delivered to the CLERK OF THE COUNCIL, 23 Station Road, Hinckley, not later than THURSDAY, 7th September, 1961.

LITTLEBOROUGH URBAN DISTRICT COUNCIL.

The above Council invite TENDERS for the CONSTRUCTION of approx. 93 lin. yd. of 9in. dia. EARTHENWARE SEWER, and one Brick Chamber.

Print and General Conditions may be inspected, and copies of the Specification, Bills of Quantities and Form of Tender may be obtained on application to D. W. ALLISON, B.Sc.(Eng.), A.M.I.Mun.E., Engineer and Surveyor, Council Offices, Littleborough.

No Tender will be received except in a plain sealed envelope bearing the words "Tender for Sewer," but which must not bear any name or mark indicating the sender.

Tenders, sealed and endorsed as above, must be received by the undersigned not later than 9 a.m. on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. C. CLOUGH,
Clerk of the Council.Council Offices,
Littleborough.
2nd August, 1961.

WHISTON RURAL DISTRICT COUNCIL.

KNOWSLEY HOUSING SCHEME—PART 1A.

ERECTION OF 12 BUNGALOWS AND TWO FOUR-BEDROOM HOUSES.

TENDERS are invited for the ABOVE-MENTIONED WORKS.

Contract documents can be obtained from the Engineer and Surveyor, Council Offices, Delph Lane, Whiston, Prescot, upon payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender.

Sealed Tenders, in the endorsed envelope provided, must be returned to the undersigned not later than 12 Noon on WEDNESDAY, 13th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. R. HENLEY,
Clerk of the Council.Council Offices,
Delph Lane,
Whiston,
Prescot.

CONTRACTS

SURREY COUNTY COUNCIL.

HIGHWAYS AND BRIDGES DEPARTMENT.

TENDERS are invited for MAKING-UP WHARF LANE, SEND, near Guildford, with Tarmacadam Surfacing to Carrigeway and Footways, Kerbing, etc. Approx. length 300yd.

Documents, obtainable from Office of County Engineer, where Drawings may be inspected, returnable by 26th AUGUST, 1961, in plain sealed envelopes endorsed "P.W.M.—Wharf Lane" to CLERK OF THE COUNCIL, County Hall, Kingston-upon-Thames.

HAMPSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES.

RURAL DISTRICT OF PETERSFIELD.

TRUNK ROAD, A.3—IMPROVEMENT AT JUNCTION BOLINGEN HILL ROAD.

TENDERS are invited for the REALIGNMENT and RECONSTRUCTION of approx. 1.250yd. of CARRIAGEWAY between WESTON RAILWAY BRIDGE and THE CAUSEWAY.

The works include approx. 20,000 cu. yd. of Excavation (partly in rock), Filling, Surface Water Drainage, Road Foundations in Gravel, Lean-Mix Concrete (or Dry Stone), Bituminous Macadam, together with Channelling, and all other Incidental works.

Applications for particulars should reach the undersigned not later than 12 Noon, TUESDAY, 15th August, 1961.

The Council do not undertake to accept the lowest or any Tender.

H. N. JENNER,
County Surveyor.The Castle,
Winchester.

BOROUGH OF ALDEBURGH.

FRANKLIN ROAD HOUSING ESTATE.

TENDERS are invited on a Fixed-price Basis for the CONSTRUCTION of 578 sq. yds. of FINE COLD ASPHALT and TARMACADAM CARRIAGEWAY on Hardcore, Footways, and ancillary works on the ABOVE HOUSING ESTATE.

Drawings may be inspected at the Office of the Borough Surveyor, Borough Offices, Aldeburgh, Suffolk, and copies of the Conditions of Contract, Specification, Bill of Quantities and Forms of Tender may be obtained from the Borough Surveyor, at the same address, upon payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Franklin Road," but bearing no name or mark indicating the sender, must reach the undersigned not later than 12 Noon on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. J. OWEN,
Town Clerk.Borough Offices,
Victoria Road,
Aldeburgh, Suffolk.
29th July, 1961.

BOROUGH OF ALDEBURGH.

PRIVATE STREET WORKS.

TENDERS are invited on a Fixed-price Basis for the FOLLOWING:

Linden Road—7½yd. wide. Carrigeway (5ft. Footways and 7ft. Verges);

Linden Close—7½yd. long 16ft. Carrigeway (5ft. Footways and 2ft. Verges);

Fairfield Road (Part)—76yd. long 16ft. Carrigeway (5ft. Footways and 5ft. Verges);

Springfield Road—19yd. long 16ft. Carrigeway (5ft. Footways and 2ft. Verges).

The works include Construction of Carrigeway (Fine Cold Asphalt and Tarmacadam on Hardcore), Drainage, Kerbing, and Construction of Footways with Grass Verges.

Drawings may be inspected at the Office of the Borough Surveyor, Borough Offices, Aldeburgh, Suffolk, and copies of the Conditions of Contract, Specification, Bill of Quantities and Forms of Tender may be obtained from the Borough Surveyor, at the same address, upon payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender—Private Street Works," but bearing no name or mark indicating the sender, must reach the undersigned not later than 12 Noon on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. J. OWEN,
Town Clerk.Borough Offices,
Victoria Road,
Aldeburgh, Suffolk.
29th July, 1961.

CHESHIRE EDUCATION COMMITTEE.

SUPPLY OF MATERIALS.

Contractors wishing to be placed on an Approved List of SUPPLIERS may obtain a copy of the FOLLOWING ITEMS should apply to the undersigned not later than 31st AUGUST, 1961:

Grass Seed; Selective Weedkiller; Agricultural Land Drainpipes; Tennis Court Stop Netting.

The list of contractors, when prepared, will operate until 1st June, 1964, and accepted Tenders will apply for a six-month period.

JOHN G. KELLETT,
Director of Education.

CHESHIRE EDUCATION COMMITTEE.

PLAYING FIELD CONTRACTS.

An Approved List of Contractors is being prepared by the Education Committee. Any contractor possessing the necessary equipment and skilled labour for LAYING-OUT LARGE and SMALL AREAS of PLAYING FIELDS (including Earthmoving, Drainage Work, and the construction of Tennis Courts, Running Tracks and All-weather Pitches) should apply to the undersigned not later than 31st AUGUST, 1961.

The Panel, when formed, will apply until 1st June, 1964, and all work in connection with the development of sites will be carried out by contractors selected from that Panel.

Contractors when applying, should indicate for which of the following ranges they wish to be considered: Projects up to £1,500; £1,500-£3,000; £3,500 upwards.

JOHN G. KELLETT,
Director of Education.County Hall,
Chester.

CONTRACTS

BEDFORDSHIRE COUNTY COUNCIL.

LONDON-CARLISLE-GLASGOW-INNERNESS TRUNK ROAD, A.6.

IMPROVEMENT FROM LUTON BOROUGH BOUNDARY TO WARDEN HILL.

TENDERS are invited for the WIDENING of the ABOVE ROAD by approx. 8ft. for a distance of 1,500 yds.

The works involve the Excavation for, and Construction of, the Widened Portion of Road, the Provision of a New Footpath, and Alterations and Adjustments to G.P.O. Plant, Sewers, and Street Lamp.

Tender documents may be obtained from the County Surveyor, Dents Road, Bedford, on payment of a deposit of Two Pounds which will be returned on receipt of a bona-fide Tender. Detailed drawings may be inspected by appointment.

"Improvement of A.6 from Luton Borough Boundary to Warden Hill," must be delivered to the undersigned by 12 Noon on FRIDAY, 18th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

GEORGE BREWIS,
Shire Hall,
Bedford.
July, 1961.

COUNTY BOROUGH OF BURY.

EXTENSIONS TO BLACKFORD BRIDGE SEWAGE WORKS—PRIMARY TREATMENT PLANT AND STORM WATER TANKS.

TENDERS on a Fixed-price Basis invited for CONSTRUCTION of EXTENSIONS to ABOVE WORKS, comprising Reinforced Concrete Detritus Tanks, Screen Chambers, Storm Water Tanks, Storm Water Overflows and Channels, Pumping Stations, Rising Mains, Mechanical Plant, Sewerage, Access Roads, and ancillary works.

Tender documents obtainable from Borough Engineer on payment of £10 10s. returnable to contractors who submit a bona-fide Tender. Contract Drawings may be inspected at Borough Engineer's Office.

Only contractors experienced in this type of work will be considered, and a list of recent similar works executed must be submitted with Tender.

Tenders, enclosed in official envelope, must reach me by 2nd SEPTEMBER, 1961.

EDWARD S. SMITH,
Town Clerk.Town Hall,
Bury.
27th July, 1961.

COUNTY BOROUGH OF DUDLEY.

RUSSELLS HALL ESTATE PRIVATE DEVELOPMENT, OFF BUSHEY FIELDS ROAD AND ASHENHURST ROAD.

ROADS AND SEWERS.

Applications to TENDER are invited for the ABOVE CONTRACT, consisting of 620 lin. yd. 9in. dia. Pipes; 340 lin. yd. 27in. dia. Pipes; 650 lin. yd. Precast Kerb and Channel, 2,050 sq. yd. of Pitched Carrigeway and ancillary works.

Applications must be submitted to the Borough Engineer, The Council House, Dudley, Worcs., together with a deposit of £2 2s. which will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and on the return of documents.

The latest date for receipt of applications is WEDNESDAY, 16th August, 1961, and Tender documents will be forwarded after this date.

P. D. WADSWORTH,
Town Clerk.The Council House,
Dudley, Worcs.
July, 1961.

BOROUGH OF LEYTON.

CONSTRUCTION OF A 'BUS LAY-BY IN HIGH ROAD, LEYTON.

TENDERS are invited for the ABOVE WORKS, which include the Provision of a Concrete 'Bus Lay-by and Mass Concrete Retaining Wall, with ancillary works.

Contract documents may be obtained from the Borough Engineer on receipt of a deposit of £2 2s. which will be refunded on the return of a bona-fide Tender.

Tenders must be received by the undersigned by Noon on MONDAY, 28th August, 1961.

D. J. OSBORNE,
Town Clerk.Town Hall,
Leyton, E.10.

BOROUGH OF WREXHAM.

FIXED-PRICE TENDERS are invited for the FOLLOWING:

No. 1—Borras Park Road: 289 lin. yd. 9in. Surface Water Sewer, 4 Manholes, and ancillary works.

No. 2 (a) Kingsmill Road Improvement (Whitegate Road to C. T. Clarke's).

(b) Kingsmill Road Footpath (North Side).

(c) Brook Street Improvement (adjacent to Victoria Hall).

Drawings and General Conditions of Contract may be inspected, and Specifications, Bills of Quantities and Forms of Tender obtained from J. M. DAVIES, Borough Engineer and Surveyor, Wrexham, Wrexham, on payment of a deposit of £2 2s. in respect of each Contract, which will be refunded on receipt of a bona-fide Tender.

Tenders, in the envelope provided, must be sealed and delivered to the undersigned by 12 Noon on MONDAY, 21st August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS,
Town Clerk.Guildhall,
Wrexham.
July, 1961.

URBAN DISTRICT COUNCIL OF WELLINGBOROUGH.

TENDERS are invited for ONE 800-GALLON COMBINED GULLEY and CESSPOOL EMPTIER, complete.

Further particulars can be obtained from the Engineer and Surveyor.

Tenders, in a plain sealed envelope endorsed "Tender for Gully Emptier," must reach me by Noon on TUESDAY, the 5th September, 1961.

W. G. PALMER,
Clerk of the Council.Council Offices,
Swanapool,
Wellingborough.

28th July, 1961.

CONTRACTS

HAMPSHIRE COUNTY COUNCIL
COUNTY ROADS AND BRIDGES DEPARTMENT.
WINCHESTER RURAL DISTRICT.TRUNK ROAD, A.33—OTTERBOURNE HILL—
KILN LANE TO THE CRICKETERS' ARMS.

TENDERS are invited for the WIDENING of approx. 670yds. of the ABOVE ROAD to provide a 30ft. Carrigeway.

The works include Excavation, Filling, Surface Water Drainage, Carrigeway Construction in Gravel, Lean Concrete (or Dry Stone) and Bitumen Macadam, Kerbing, and ancillary works.

Applications for particulars should reach the undersigned not later than 12 Noon on THURSDAY, 24th August.

The Council do not undertake to accept the lowest or any Tender.

H. N. JENNER,
County Surveyor.The Castle,
Winchester,
July, 1961.

BOROUGH OF GOSPORT.

HIGHWAY IMPROVEMENT WORKS IN
ROWNER LANE, WYCH LANE AND BREWERS LANE.

TENDERS are invited for the ABOVE WORKS, which include the Cutting Back of Hedges; the Re-grading of Ditches and the Laying therein of approx. 370 lin. yd. of 12in. dia. Pipes; the Construction of some 20 Gullies and 10 Manholes, the Laying of approx. 1,260 lin. yds. of Precast Concrete Kerbing and 5,600 sq. yd. of Asphalt Footway Surfacing; the Construction of approx. 1,360 sq. yd. of New Roadway in Hardcore and Bitumen Macadam, together with Gully Connections, Vehicle Crossings, and appurtenant works.

Tender documents are obtainable from the Borough Engineer, Town Hall, Trinity Green, Gosport, upon deposit of Two Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tender Forms should be submitted to me, in the small envelope provided, and should bear no mark indicating the tenderer. The priced Bills of Quantities should at the same time be submitted to me, in the large endorsed envelope provided, and should bear the name of the tenderer. Both envelopes must reach my Office not later than MONDAY, 28th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EDWARD ADDENBROOKE,
Town Clerk.Town Hall,
Gosport.BRIERLEY HILL URBAN DISTRICT
COUNCIL.FOUL WATER SEWER DUPLICATION—
DAWLEY BROOK AND
EXTENSION OF 15IN. DIA. CAST-IRON SIPHON—
MOOR STREET.

TENDERS are invited for the ABOVE WORK, comprising 430 lin. yd. of 15in. dia. Stoneware Pipes laid in a private estate road, and 72yd. 15in. Cast-Iron Piping laid in a public highway, together with Precast Concrete Manholes, and other ancillary works.

Drawings and Conditions of Contract may be inspected at the Office of the Engineer and Surveyor, R. H. J. COMBER, M.I.M.E., Civic Buildings, Brierley Hill, Staffs., where Specification, Bills of Quantities and Form of Tender may be obtained upon payment of a deposit of Two Guineas, which will be refunded on the submission of a bona-fide Tender fully completed, and not subsequently withdrawn.

Tenders, with fully priced Bills of Quantities, enclosed in a plain sealed envelope endorsed "Sewers—Dawley Brook and Moor Street," are to be returned to the undersigned at the Civic Buildings, Brierley Hill, Staffs., not later than Noon on THURSDAY, 31st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

HERBERT HEX,
Clerk of the Council.

FARNHAM URBAN DISTRICT COUNCIL.

The Council invite TENDERS for the CONSTRUCTION of IMPROVEMENT WORKS as FOLLOWS:

(1) Weybourne Road (B.3007).

Construction of Concrete Bus Bay.

(2) Upper Weybourne Lane (C.X.21).

The works comprising the Widening of the existing Carrigeway to 22ft., and the Construction of Footpaths, the approx. quantities being:

(a) 2,000 cu. yd. Excavation;

(b) 2,500 super. yd. Carrigeway Con-

(c) 1,800 super. yd. Footpath Construction;

(d) 900 lin. yd. Concrete Kerb and Sett

Channels; (e) Ancillary works.

Form of Tender, Specification and Bills of Quantities for these works may be obtained from GEOFFREY POOLE, M.I.M.E., Engineer and Surveyor, upon the deposit of £2 2s. for each site, which is returnable on the receipt of a bona-fide Tender and/or the return of all documents.

The General Conditions of Contract and Drawings may be inspected at the Office of the Engineer and Surveyor during normal working hours.

Tenders shall be returned to the undersigned, in the endorsed envelopes provided, not later than 9 a.m. MONDAY, 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. W. UNDERDOWN,
Clerk of the Council.Council Offices,
South Street,
Farnham, Surrey.

ESSEX RIVER BOARD.

CHELMSFORD FLOOD RELIEF SCHEME—
SUPPLY AND ERECTION OF STEEL SLUICE GATES.

TENDERS are invited from experienced manufacturers for the SUPPLY and ERECTION of TWO M.S. RADIAL GATES 25ft. span x 10ft. high, and ONE M.S. TILTING GATE 20ft. span x 2ft. 6in. high. Tender documents and Drawings, etc. may be obtained from the Engineer to the Board, Rivers House, New Writtle Street, Chelmsford, Essex, on receipt of a deposit of £5 5s. which will be returned when a bona-fide Tender has been submitted before the date mentioned below.

Sealed Tenders must be returned to the undersigned not later than First Post, WEDNESDAY, 20th September, 1961.

W. J. S. BEW,
Clerk of the Board.

CONTRACTS

WARWICKSHIRE COUNTY COUNCIL.

TENDERS are invited for all or any of the FOLLOWING SCHEMES, which are subject to the Ministry of Transport's Standard Conditions of Contract and Specification:

(1) Widening Old Coventry-Oakley Wood Road, A.444—Weddington Lane Improvement—Stage II.

Widening and Kerbing approximately 800yd. of 24ft. Carrigeway, together with Asphalt Base Course, and incidental works.

(2) North Road, Clifton-upon-Dunsmore.

Drainage, Kerbing, Widening and Surfacing in approximately 560yd. of 18ft. Carrigeway in Residential Road, together with Footpaths and other incidental works.

(3) Four Way-Cloudesley Bush to High Cross. Widening Old Carrigeway to 16ft. for approximately 1 1/2 miles, including Surfacing, Drainage and incidental works.

Tender documents may be obtained from DAVID WATSON, M.I.C.E., M.I.M.E., County Surveyor, Shire Hall, Warwick, on payment of a deposit of One Guinea for each, which will be refunded on receipt of a bona-fide Tender or the return of the documents.

Drawings and other relevant details may be examined at the offices of the County Surveyor during normal office hours.

Tenders are to be returned in plain sealed envelopes endorsed as required by Tender documents, to the County Surveyor by not later than MONDAY, 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tenders, and reserve the right to allocate each of these three Contracts separately.

L. EDGAR STEPHENS,
Clerk of the County Council.Shire Hall,
Warwick.COUNTY BOROUGH OF
WEST HARTLEPOOL.

DESTRUCTOR—BURN ROAD.

STEELWORK EXTENSION OF OVERHEAD TIPPING
PLATFORM.

TENDERS are invited from steel erection contractors for the EXTENSION to the EXISTING STEEL DECK of the OVERHEAD TIPPING PLATFORM at the DESTRUCTOR.

Drawings may be inspected and Specification, Bills of Quantities and Forms of Tender obtained on application to the Borough Engineer and Surveyor, Municipal Buildings, West Hartlepool, on payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, addressed to the Chairman of the Works Committee, are to be delivered to my office not later than SATURDAY, 2nd September, 1961. No tender will be accepted unless enclosed in the envelope provided, which shall bear no name or mark indicating the tenderer.

The Corporation does not bind itself to accept the lowest or any Tender.

ERIC J. WAGGOTT,
Town Clerk.Municipal Buildings,
West Hartlepool.

July, 1961.

BOROUGH OF WANSTEAD AND
WOODFORD.HARDSTANDING AND GARAGE BASES—
OLD MILL COURT.

TENDERS are invited to CONSTRUCT approximately 4000 sq. yd. of TARMACADAM HARDSTANDING on HARDCORE or LEAN-MIX CONCRETE BASE, 260 sq. yd. of 6in. REINFORCED CONCRETE DRAWDOWN BASES, DRAINAGE and appurtenant Works.

Tender documents from the BOROUGH ENGINEER, Municipal Offices, Woodford, E.18, on payment of £2 deposit.

Tenders by 24th AUGUST, 1961.

LYDNEY RURAL DISTRICT COUNCIL.

WATER SUPPLY PARISH OF TIDENHAM.

TENDERS, on a FIXED-RATE BASIS, are invited for the LAYING of 4,844yd. of 4in. and 840yd. of 3in. SPANNING WATER MAIN, including all necessary Valves and Fittings and ancillary Works, in the Parish of Tidenden.

Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Council Offices, Lydney, on payment of a deposit of Five Guineas, which will be refunded on the receipt of a bona-fide Tender and the return of all documents supplied in connection with the Tender.

Drawings and Conditions of Contract may be inspected at the office of the Engineer and Surveyor, Council Offices, Lydney.

Tenders, enclosed in the envelope supplied, must be delivered to the undersigned not later than Noon on THURSDAY, 31st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender, and the acceptance of any Tender will be subject to the approval of the Ministry of Housing and Local Government.

Dated this 26th day of July, 1961.

E. A. BEECH,
Clerk of the Council.

Council Offices,

Lydney,
Glos.

SWALE RURAL DISTRICT COUNCIL.

IMPROVEMENT TO TEYNHAM S.D. WORKS.

TENDERS are invited from experienced civil engineering contractors, for the WORKS DESCRIBED BELOW.

The work will comprise the Construction of a Pumping Station and an additional Stormwater Tank; the Modification of an existing Sedimentation Tank Inlet; Alterations to the existing Screening and Overflow arrangements; the Renewal of the Distributors to the Filter Beds, and the Construction of a Dosing Chamber, the Laving of 400yd. of 15in. dia. Asbestos-cement Pipe, Laving Main; together with Fencing, Drains, Pipework, and other ancillary work.

Application for documents should be made to H. D. HARGRAVES, M.I.M.E., M.R.S.H., the Engineer and Surveyor, at the address below. The names of three Engineers for whom similar work has been carried out, and a deposit of Five Guineas should be submitted with the application.

Sealed Tenders, in the envelope provided, should reach the undersigned not later than 10 a.m. on THURSDAY, the 14th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

BRYAN TASSELL,
Clerk of the Council.

Whitehall,

48/50 Bell Road,

Sittingbourne,
Kent.

CONTRACTS

BOROUGH OF HEMEL HEMPSTEAD.

CLEFT CHESTNUT FENCING—DEACONSFIELD ROAD, LAWN LANE, WOOD CRESCENT, WOOD LANE, ST. PAULS ROAD AND ADEYFIELD ROAD.

TENDERS are invited for the SUPPLY and ERECTION of approx. 1,940yd. runs of 3ft. high CLEFT CHESTNUT FENCING on driven stakes, for Council Houses in Deaconsfield Road, Lawn Lane, Wood Crescent, Wood Lane, St. Pauls Road and Adeyfield Road.

The Specification and Form of Tender may be obtained from A. H. TURNER, A.M.I.C.E., Borough Engineer, High Street, Hemel Hempstead, Herts., at whose Office the General Conditions of Contract and Plan may be inspected.

Tenders in plain sealed envelopes endorsed "Cleft Chestnut Fencing," bearing the name or indication of the tenderer, must be delivered to me not later than 12 Noon on MONDAY, 21st August, 1961.

C. W. G. T. KIRK,
Town Clerk.Town Hall,
High Street,
Hemel Hempstead,
Herts.
27th July, 1961.

BOROUGH OF SCARBOROUGH.

SOUTHERN OUTFALL SEWER RECONSTRUCTION.

STAGE 2.

TENDERS are invited for the CONSTRUCTION of 388yd. of 81in. dia. and 18yd. of 48in. dia. THICK-ENED CONCRETE PIPE SEWER, to be laid in open cut along SANDSIDE, and incidental works thereto. The time of the works to be completed by 14th AUGUST, 1961.

Specifications, Bills of Quantities, Conditions of Contract and Form of Tender may be obtained on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender and the returnable documents. Drawings may be inspected at the Office of the Engineer.

Tenders, which should be enclosed in a plain sealed envelope endorsed "Tender for Southern Outfall Sewer Reconstruction," must be received by the undersigned not later than 10 a.m. on FRIDAY, 1st September, 1961.

V. FORSHAW,
Borough Engineer and Surveyor.
Town Hall,
Scarborough,
August, 1961.

BOROUGH OF SLOUGH.

TRADING ESTATE LINK ROAD.

TENDERS are invited on a Fixed-price Basis for the CONSTRUCTION of a NEW ROAD linking the Slough Trading Estate with the L.C.C. Britwell Estate.

The work comprises approx. 4,000 sq. yd. of Concrete, Carrigeway, Foundation and Asphalt Surfacing, 1,500 sq. yd. of Footway Surfacing, 300 lin. yd. of Surface Water Sewer, and ancillary works.

Specifications, Bills of Quantities and Forms of Tender are obtainable from the BOROUGH ENGINEER, Town Hall, Slough, Bucks., on payment of a deposit of Two Guineas, which will be refunded on receipt of a bona-fide Tender and the return of all documents.

Drawings and Conditions of Contract may be inspected at the Borough Engineer's Office during normal office hours.

Tenders, on the prescribed form, must be returned, in the envelope provided, not later than Noon on 30th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

URBAN DISTRICT COUNCIL OF
COULSDON AND PURLEY.

PRIVATE STREET IMPROVEMENT WORKS.

(A) ELTON ROAD, PURLEY.
(B) ELMFIELD WAY (PART OF), SANDER-

(C) FOOTPATH (PART OF), WESTFIELD AVE., SANDERSTEAD.

TENDERS are invited for the ABOVE WORKS. Bills of Quantities and Form of Tender, prepared by H. M. COLLINS, A.M.I.C.E., may be obtained upon deposit of £3 3s. in respect of each Tender, which will be refunded upon receipt of a bona-fide Tender. Plans, Specification and Conditions of Contract may be inspected at the Council Offices.

Sealed Tenders, in the envelopes provided and endorsed "Elton Road," "Elmfield Way," and "Footpath Westfield Avenue to Mitchley Avenue Improvement Works," must be delivered to the undersigned not later than First Post on THURSDAY, 31st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERIC F. J. FELIX,
Clerk of the Council.
Council Offices,
Purley.

TECHNICAL ESTIMATING SERVICE. The most accurate estimating service in the country. All trades, large or small. GUARANTEED RESULTS. Modest fees.—Send for details to 73 Leadenhall Street, London, E.C.3. Tel: Ave 9676.

JOHN MOWLEM AND CO., LTD., invite sub-contractors to TENDER for Fixing Rock-faced Masonry and Bricklaying.—Apply to Derwent Reservoir, Edmondbyers, near Consett, Co. Durham. Tel: Edmondbyers 248.

For Contracts received too late for classification see page 581

APPOINTMENTS VACANT

URBAN DISTRICT COUNCIL OF
BASILDON.
(Population 90,000-27,000 acres. Rapidly
developing district.)CLERK OF WORKS, ENGINEERING (TEMPORARY)—
WITHIN GRADE A.P.T. I (£645-£815 P.A.).

APPLICANTS should be experienced in the supervision of engineering works, particularly roads and sewers. Post designated temporary, but at least two years, and probably of much longer duration.

A small allowance on a casual user basis, now 9d. per mile.

Housing and conditional payment of removal expenses considered.

Particulars and forms from ENGINEER AND SURVEYOR, 88 Town Square, Basildon, Essex. Closing 16th AUGUST.

APPOINTMENTS VACANT

LANCASHIRE COUNTY COUNCIL

APPLICATIONS are invited from suitably qualified ENGINEERING ASSISTANTS for vacancies on Grades A.P.T. III (£960-£1,140) and A.P.T. IV (£1,140-£1,310) in the County Surveyor's Department at Preston, in connection with large-scale road and bridge schemes, drainage and sewerage work, soils mechanics and private street works.

The commencing salaries will be in accordance with qualifications and experience.

Applications, stating the Grade applied for, and quoting Ref. No. 123/12, names and addresses of two referees, and details of qualifications and experience, to be delivered to the COUNTY SURVEYOR, P.O. Box No. 9, County Hall, Preston.

GLOUCESTERSHIRE COUNTY COUNCIL

LONDON-SOUTH WALES MOTORWAY.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in connection with the design of the London to South Wales Motorway, between the A38 and the Wiltshire boundary:

- (a) Senior Assistant Engineers — Scale "B" (£1,535-£1,670).
- (b) Senior Assistant Engineer — Scale "A" (£1,410-£1,565).
- (c) Assistant Surveyor/Engineer — A.P.T. V (£1,310-£1,480).

For appointments (a) and (b), candidates should have had experience in the design and/or construction of major road projects, or in the design of bridges.

Applications, on forms to be obtained from the County Surveyor, Queen's Street, Gloucester, should be submitted not later than 21st AUGUST, 1961, with the names of at least two referees.

GUY H. DAVIS,
Clerk of the County Council.

Shire Hall,
Gloucester.

HUNTINGDONSHIRE COUNTY COUNCIL

COUNTY SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS in connection with the reconstruction of the Great North Road. Salary £15 15s. per annum.

Applicants should have had good experience in the supervision of constructional contracts on road and bridge schemes. The appointment is not established, but there is an extensive programme of roadworks in hand.

Applications, stating age, training, experience, present position and salary, together with copies of two referees, should be sent to R. E. C. DORLING, B.Sc.(Eng.), A.M.I.C.E., County Surveyor, Walden House, Huntingdon, by not later than WEDNESDAY, 9th August, 1961.

A. C. AYLWARD,
Clerk of the County Council.

COUNTY BUILDINGS, HUNTINGDON.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

The FOLLOWING POSITION on the Established Staff provides varied and interesting work in a Municipal Borough of 116,000 population:

- Senior Civil Engineering Assistant — A.P.T. Grade V (£1,355-£1,525 p.a.). Commencing salary will be according to experience and ability.

Applicants should hold a final professional qualification or an appropriate University degree.

Five weeks' staff restaurant facilities; part removal expenses reimbursed.

Application Form, obtainable from the Borough Engineer and Surveyor (C1), Town Hall, Tottenham, N.15, should be returned to him not later than the 14th AUGUST, 1961.

M. LINDSAY TAYLOR,
Town Clerk.

BOROUGH OF ENFIELD.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE TEMPORARY APPOINTMENT at a salary of £15-£16 per week, according to qualifications and experience. Candidates should have had considerable experience in the supervision of the construction of roads and sewers in connection with estate developments and supervision of road construction works by contract and should be capable of setting-out works.

Application Forms, returnable by 10th AUGUST, 1961, obtainable from Borough Engineer and Surveyor, 7 Little Park Gardens, Enfield, Middlesex.

CYRIL E. C. R. PLATTEN,
Town Clerk.

Civic Centre,
Enfield, Middlesex.

WAREHAM AND PURBECK RURAL DISTRICT COUNCIL

ENGINEER AND SURVEYOR'S DEPARTMENT.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited from suitably qualified and experienced Civil Engineers for the POST of TEMPORARY RESIDENT ENGINEER, to supervise the construction of village sewerage and sewage disposal schemes. The appointment will be for a period of two years in the first instance, thereafter renewable by one month's written notice on either side.

The salary will commence at £1,055 and rise to £1,140 (A.P.T. III). The successful candidate will be expected to provide a car, for the use of which an allowance will be paid based on the National Joint Council Scale for a 10-h.p. car.

The Council will endeavour to assist in providing housing accommodation at the normal rental; in the event of the Council being unable to provide, or the successful applicant unable to find, housing accommodation, a special subsistence allowance of £3 per week (for a maximum period of six months) will be allowed in the case of a married man until the applicant, or the Council, are able to find, or offer, a dwelling.

Fifty per cent. (up to a maximum of £20) of removal expenses payable in certain circumstances.

Applications, stating age, experience and qualifications, together with the names and addresses of two referees, should reach the undersigned not later than First Post on MONDAY, the 28th day of August, 1961.

C. F. J. DURANT-LEWIS,
Clerk of the Council.

Westport House,
Wareham,
Dorset.

27th July, 1961.

APPOINTMENTS VACANT

CEYLON.

DEPARTMENT OF GOVERNMENT ELECTRICAL UNDERTAKINGS

POSTS OF FOREMAN INSPECTOR (TUNNEL)—
HYDRO-ELECTRIC SCHEME—STAGE IIIB.

APPLICATIONS are invited for FOUR POSTS of FOREMAN INSPECTOR (Tunnel), in the Department of Government Electrical Undertakings, for work in connection with the above Scheme. The appointments will be for a period of three years.

The salary of the post is £1,200-£1,500 p.a., according to experience of the candidate selected, which will be paid at the current rate of exchange.

Applicants, who will be required to furnish a medical certificate, and their physical fitness for service in Ceylon, should have considerable experience in driving and lining of tunnels in rock.

The Ceylon Government will contribute 7½ per cent. of salary to a Provident Fund. Free passages to the Island and back will be provided for the successful applicant and his family, up to a maximum of four persons, besides the applicant. Rent Allowance, if not in occupation of Government Quarters, and cost-of-living allowance are payable in terms of Government Regulations in force at the time.

A specimen copy of the letter of appointment could be inspected at the Office of the Ceylon Government Representative.

Applications, giving full details of experience, should be submitted in triplicate, with three copies of testimonials, within two weeks from appearance of this advertisement, to the Consulting Engineers, PREECE, CARDEW AND RIDER, 8, 10 and 12 Queen Anne's Gate, Westminster, London, S.W.1.

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Applications, giving full details of experience, should be submitted in triplicate, with three copies of testimonials, within two weeks from appearance of this advertisement, to the Consulting Engineers, PREECE, CARDEW AND RIDER, 8, 10 and 12 Queen Anne's Gate, Westminster, London, S.W.1.

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APPOINTMENTS VACANT

TANZANIA.
WATER DEVELOPMENT AND IRRIGATION
DIVISION.
SENIOR HYDROLOGIST.

Duties: Under the Chief Planning Engineer, to take control of a large hydrological section and staff, and be responsible for all hydrological investigations and works in the territory.

Qualifications: Candidates must have either a University degree in Civil Engineering or Geography, or an A.M.I.C.E., and have had wide experience in practical and theoretical surface water hydrology, especially with regard to building-up networks of river gauging, climatological stations, methods of measuring rivers, stages and discharge, sediment load, precipitation, evaporation, and training of personnel.

Terms of Appointment: On contract for one or two tours of 21-27 months.

Total Emoluments (including Gratuity): £3,127-£3,330 p.a.

Free passages. Free medical attention. Generous home leave and education allowances up to £200 p.a. per child.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House, Terrace, London, S.W.1, quoting BCD140/8/018/D14, and giving full name, age, and brief details of qualifications and experience.

CITY OF PLYMOUTH.

APPLICATIONS are invited for the APPOINTMENT of ASSISTANT ENGINEER, Grade A.P.T. IV (£1,140 to £1,310).

Applicants must be Corporate Members of the Institution of Civil Engineers or of the Institution of Municipal Engineers, and be experienced Civil or Municipal Engineers.

It is the practice of the Council to pay half the cost of household removal expenses up to a maximum contribution of £25.

Housing accommodation may be available in certain circumstances.

The appointment is superannuable, subject to medical examination, and the age limit is 40 years, or 45 years if serving with another local authority.

Applications, on forms obtainable from the undersigned, to be returned by 26th AUGUST, 1961.

J. ACKROYD,
City Engineer and Surveyor.

The Guildhall,
Plymouth.

SOUTHWICK URBAN DISTRICT COUNCIL.

APPOINTMENT OF JUNIOR ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited from young men who have passed the Intermediate R.I.B.A. Examination, or equivalent, for the POSITION of JUNIOR ARCHITECTURAL ASSISTANT to the Engineer and Surveyor's Department of this progressive and attractive South Coast town.

The salary offered will be within A.P.T. Grade I (£615 to £815 p.a.), and there are excellent facilities for continuation of professional qualifications in respect of which the Council give financial assistance. The Council operate a 5-day week, and there are good local facilities for sporting, recreational and cultural activities. Full particulars of the district and work in hand may be obtained from the Council's Engineer and Surveyor, at 215 Albion Street, Southwick, Sussex.

Applications, stating age, details of education, nature and period of training and experience, to be forwarded to the undersigned not later than 11th AUGUST, 1961.

A. R. SHOTT,
Solicitor, Clerk of the Council.

Town Hall,
Southwick, Sussex.
25th July, 1961.

WEST DORSET WATER BOARD.

APPOINTMENT OF SUPPLY ENGINEER.

APPLICATIONS are invited for the ABOVE APPOINTMENT on the A.P.T. Grade III Scale (£960-£1,140 p.a.).

Applicants are not required to possess academic qualifications, but must have previous experience of water supply operation. The post involves responsibility for organising the running programmes for two fully automatic pumping stations and numerous booster stations, and the maintenance of the pumping equipment. All the plant will be electrically driven. The main station will have modern sterilisation plant, but there are also numerous pumping stations in village supplies where the continuous working of the machinery and chlorinators requires a mind capable of improvisation. The Supply Engineer will also be responsible for the functional operation of 32 small storage reservoirs, but not their structural maintenance. He will be on call at night, and his hours of duty will be covered by a rota system with other officials of the Board.

Work is now well in hand with the Board's Regional Scheme, and the Supply Engineer is required to take up his duties at this time in order to be fully familiar with all the new works from inception to operation. An essential user's call for reference is payable, and the Board will assist with removal expenses. The appointment is subject to the National Scheme of Conditions of Service, and to the satisfactory passing of a medical examination.

Applications, giving full details of experience, etc., should be addressed to the undersigned not later than 26th AUGUST, giving the names of two persons to whom reference can be made.

R. CHAPMAN, A.M.I.C.E., A.M.I.W.E.,
Engineer and Manager.

45 South Street,
Bridport, Dorset.

SUNDERLAND AND SOUTH SHIELDS WATER COMPANY.

DERWENT RESERVOIR.

INSPECTORS OF WORKS.

Applications are invited from Public Works Inspectors, or from tradesmen experienced in public works, for POSTS of INSPECTORS OF WORKS on the Derwent Reservoir, which is situated 5 miles west of Consett.

Salary will be £750 p.a., plus a lodging or travelling allowance of £3 3s. per week. Overtime rates will be paid.

Applications, stating age and other personal particulars, and giving full details of experience, should be received by me not later than MONDAY, 14th August. Applicants are also required to give the names and addresses of two persons to whom reference may be made.

A. G. McLELLAN,
General Manager.

29 John Street,
Sunderland.

APPOINTMENTS VACANT

UGANDA.

MINISTRY OF WORKS.

MATERIALS ENGINEER.

Duties: Laboratory and field work in connection with road design and construction, and may be required to test building materials.

Qualifications: Candidates should have a University Degree in Civil Engineering, plus two years' practical experience in a soils mechanics laboratory.

Terms of Appointment: On contract for one tour of 21-27 months the first instance.

Total Emoluments (Salary plus Gratuity): In Scale £1,582-£3,060 p.a.

Free passages. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House, Terrace, London, S.W.1, quoting BCD112/9/024/CA, and giving full name, age, and brief details of qualifications and experience.

SOUTH OF SCOTLAND ELECTRICITY BOARD.

APPLICATIONS are invited for a POSITION as a TEMPORARY ASSISTANT ENGINEER (CIVIL) in the Generation, Construction Section of the Chief Engineer's Department.

Applicants should be Civil Engineers and have graduated B.Sc. in Civil Engineering, or be Associate Member of the Institution of Civil Engineers, or hold equivalent qualifications. Practical experience in the supervision of civil engineering and building work, and the preparation of specification and bills of quantities is essential. Knowledge of the design of civil engineering works, while not essential, would be an advantage.

Salary—N.I.B. Class "A," Grade VIII (£1,130-£1,325 per annum).

Applications, quoting Ref. E24/61, should be submitted on the standard form to the SECRETARY, South of Scotland Electricity Board, Inverlar Avenue, Glasgow, S.4, not later than MONDAY, 28th August, 1961.

20th June, 1961.

LANCASHIRE COUNTY COUNCIL.

APPLICATIONS are invited for POSTS as TEMPORARY CLERKS OF WORKS on the Lancashire length of the Birmingham-Preston Motorway (Warrington-Preston).

Applicants should have had extensive experience and a thorough knowledge of (a) modern methods of highway construction, including the use of heavy earth-moving equipment, and the mechanical laying of asphaltic materials and coated asphalt; or (b) bridge and/or civil engineering construction in steel, reinforced concrete (including prestressed concrete), brick and masonry, together with ancillary works. In both cases the applicant should have had experience in setting-out and monthly measurements, and should probably have had previous experience as Clerk of Works.

The rate of pay is £17 10s. per week, plus 35s. per week lodging allowance.

The duration of the work is approximately two years.

All appointments will be subject to the applicants being passed medically fit.

Applications, quoting reference No. 125/12, should be submitted by the 8th AUGUST, 1961, on the form obtainable from JAMES DRAKE, B.Sc., M.I.C.E., M.I.M.E., F.Inst.H.E., County Surveyor and Bridgemaster, P.O. Box 9, County Hall, Preston.

BOROUGH OF LOUTH.
RAITHBY PUMPING STATION AND HORNCastle ROAD PUMPING STATION.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE APPOINTMENT from persons with suitable experience.

The successful candidate will be required to supervise the execution of contracts involving buildings of reinforced concrete, steel, and brickwork.

The salary will be within the range £1,100-£1,300 per annum, according to experience and qualifications. Housing accommodation will be made available if necessary.

Applications, giving full personal details, details of experience, and previous appointments, and the names of three referees, should be addressed to the undersigned to arrive not later than FRIDAY, 25th August. The envelope should be endorsed "Clerk of Works."

WALTER HOLT,
Town Clerk.

Town Hall,
Louth, Lincs.
27th July, 1961.

CITY AND COUNTY OF THE CITY OF EXETER.

APPOINTMENT OF ASSISTANT ENGINEER (MAIN DRAINAGE).

APPLICATIONS are invited for this APPOINTMENT in Grade I, P.T. 10, of the National Salary Scale (£1,310 to £1,480 p.a.).

Applicants must be Corporate Members of the Institution of Civil Engineers, or hold the Testamur of the Institution of Municipal Engineers, and have had considerable experience in main drainage work. The appointment is especially to assist in carrying out the survey, design, and execution of a main drainage scheme within the city.

Removal expenses will be paid, and housing accommodation will be provided, if required.

Applications, on forms to be obtained from the undersigned, must be delivered not later than TUESDAY, 8th August, 1961.

JOHN BRIERLEY,
City Engineer and Surveyor.

Municipal Offices,
7 Southerton Street,
Exeter.
7th July, 1961.

HERNE BAY URBAN DISTRICT COUNCIL.

APPOINTMENT OF ENGINEERING ASSISTANT.

APPLICATIONS are invited for the APPOINTMENT of ENGINEERING ASSISTANT within A.P.T. Grade IV.

Applicants should have experience in road construction, sewerage, and general engineering works.

The appointment is subject to N.I.C. Conditions of Service, and sympathetic consideration will be given in respect of housing accommodation.

Applications, on forms obtainable from the undersigned, are to be returned not later than FRIDAY, the 25th August, 1961.

G. A. BAGNALL,
Clerk of the Council.
Council Offices,
Herne Bay,
Kent.

APPOINTMENTS VACANT

BOROUGH OF WANSTEAD AND WOODFORD.

ASSISTANT WORKS SUPERINTENDENT REQUIRED, A.P.T. II (£815-£960 plus London Re-weighting).

Official transport is provided, and it is expected that a house will be available on a service tenancy about March, 1962.

Forms obtainable from, and to be returned to, Municipal Offices, Woodford, E.18, by First Post on 10th AUGUST, 1961.

CITY OF NOTTINGHAM.
WATER DEPARTMENT.

(REVISED ADVERTISEMENT.)

APPOINTMENT OF CLERK OF WORKS (PERMANENT).

APPLICATIONS are invited from persons with a good experience of reinforced concrete work and preferably of water-retaining structures for the PERMANENT PENSIONABLE APPOINTMENT OF CLERK OF WORKS. Salary, according to experience, in Grade A.P.T. II, £815-£960.

The successful candidate should possess a car, in respect of which a casual user allowance will be paid.

Applications, with names of two persons to whom reference may be made, to Engineer and General Manager, Water Department, Castle Boulevard, Nottingham, not later than 15th AUGUST.

T. J. OWEN,
Town Clerk.

The Guildhall,
Nottingham.

SALES REPRESENTATIVES REQUIRED to cover territories: Notts., Derby., West Riding, Staffs., Cheshire, Manchester areas. Must be conversant with tarmacadam and dry limestone trade.—Write JOHN HINCHCLIFFE AND SON, LTD., P.O. Box 11, South Elmsall, near Pontefract.

PLANT AND TRANSPORT ENGINEER/MANAGER REQUIRED to take charge of maintenance, repair, etc., and operation of medium-sized South Wales contractors' plant and transport. Plant includes Ruston excavators, Caterpillar tractors, Bedford lorries, etc. Good salary, £1,000-£1,200 per annum. Age 35-45 preferable.—Please write, giving full particulars of experience and present salary, to Box V.4550.

GENERAL FOREMEN, experienced in all classes of heavy civil engineering construction, REQUIRED for contracts in the London area. Good pay and conditions, with excellent prospects of continued employment in this area.—Apply in writing to Contracts Manager, WILLMETT BROS., LTD., 462 London Road, Isleworth, Middlesex.

SITE ENGINEER REQUIRED for large civil engineering work with expanding company. Excellent career and experience, with commensurate salary and pension scheme.—Write Box V.4555, "The Contract Journal."

GENERAL MANAGER for Australia REQUIRED for British civil engineering and building contractors of world repute. Technical qualification and managerial experience essential.—Write in first instance to Managing Director, Box V.4576, "The Contract Journal."

GENERAL MANAGER for New Zealand REQUIRED for British civil engineering and building contractors of world repute. Technical qualification and managerial experience essential.—Write in first instance to Managing Director, Box V.4577, "The Contract Journal."

JUNIOR ESTIMATOR for head office. Must be capable of taking off and preparing and pricing own bills of quantities for all types of civil engineering work, some site experience essential. Applications, stating age, experience, and salary required, to SYDNEY GREEN AND SONS, LTD., Highlands Farm, Henley-on-Thames.

PERSONAL ASSISTANT to General Manager of sportsground contractors REQUIRED. Some experience in sportsground construction essential. Salary £750-£1,000 per annum, dependent on qualifications and experience. Vehicle provided if required. Write Box V.4585, "The Contract Journal."

SALES REPRESENTATIVE. Top-flight Sales Representative with experience of civil engineers' plant, REpresentative by plant sales and hire organisation operating 5,000 ft. of London. Salary £1,000 p.a. plus generous commission on sales. Must have company car; and expense allowance.—Write, with details of age, qualifications, past record, and current earnings, to Box V.4502, "The Contract Journal."

BUILDING MANAGER

REQUIRED by an old-established firm of civil engineering contractors to take charge of a new building section. The firm offers great possibilities to a man who is determined to progress. Applicants should have had wide experience in all forms of building, but with particular reference to estate development, and be capable of building up his own organisation and labour force. An initial salary up to £2,000 per annum is negotiable, depending on his qualifications and experience. There will be every opportunity for advancement. All applications will be treated in the strictest confidence. Reply, giving full details, to:

BOX V.4511, "THE CONTRACT JOURNAL."

WANTED, QUARRY MANAGER for limestone. Must be experienced in all aspects of coated and dry stone production, working on a mechanised basis. Accommodation and car after proven trial.—Write Box V.4552, "The Contract Journal."

AGENT REQUIRED for major civil engineering contract, Camberley area. Must be cost-conscious and able to do high-quality work. A good salary and bonus will be paid.—Write Box V.4551, "The Contract Journal."

QUANTITY SURVEYOR REQUIRED for civil engineering company. Salary commensurate with experience. Please send full details of experience, together with references.—JAMES BENNETT (CONTRACTORS), LTD., Helsby Street, Warrington.

PLANT HIRE company REQUIRE MANAGER for South London/Surrey area. Must be fully conversant with commercial procedure, and if possible, have contacts in the area. A knowledge of repairs would be helpful, but not essential. Assistance with accommodation if required.—Write Box V.4503, "The Contract Journal."

WAGES CLERK REQUIRED by JOHN GILL (CONTRACTORS), LTD., 123 Pall Mall, for head office. Five-day week. L.V.s. Good salary for right man.

APPOINTMENTS VACANT

LEADING professional firm, S.W. London, acting for well-known estate development companies, requires **ASSISTANT ENGINEER** for work on design supervision, etc., of all site engineering works. Applicants must have Inter. Civil or Municipal Engineers'—Write, stating age, experience, etc., to Box V.4477, "The Contract Journal."

ENGINEER/AGENT for civil engineering contract in Home Counties. Progressive post in rapidly expanding company for a man experienced in deep excavation. — Write Box V.4554, "The Contract Journal."

CIVIL ENGINEERING AGENTS, experienced in heavy civil engineering construction, REQUIRED for contracts, London area. Attractive terms, with excellent prospects of continued employment in this area. Apply in writing, stating age and experience, to Contracts Manager, WILLMENT BROS., LTD., 462 London Road, Isleworth, Middlesex.

GENERAL MANAGER—BUILDING

Major firm of building and civil engineering contractors which is separating its two main streams of activity invites applications for the position of **GENERAL MANAGER** to take charge of its rapidly expanding building division. An aptitude for departmental organisation and administration, coupled with the practical direction of work in the field, is obviously essential. The successful applicant will be allowed time to become familiar with the company's procedure and key personnel, and thereafter will progressively assume his full executive responsibilities. This is a challenging opportunity with continuing prospects to match with a record of successful previous performance. The salary is open and the position will command all the usual benefits. Applications, all of which will be acknowledged, and which will be held in the strictest confidence, to:

BOX V.4512, "THE CONTRACT JOURNAL."

SENIOR AGENTS and ENGINEERS REQUIRED for North West area. — Reply, stating experience, and salary required, to JAMES BENNETT (CONTRACTORS), LTD., Helsby Street, Warrington.

TIMEKEEPER / SITE CLERK REQUIRED for civil engineering contracts in Lancashire and Yorkshire. Good prospects and permanency offered to suitable applicant. — Applications, stating full particulars, to Box V.4532, "The Contract Journal."

FITTER FOREMAN and FITTERS, fully experienced in the maintenance and overhaul of civil engineering plant, REQUIRED for permanent position at the plant depot of CONCRETE PILING, LTD., Longwick Road, Princes Risborough, Bucks.

WORKS MANAGER REQUIRED for civil engineering contractor in Bedford. Remuneration £1,500 plus pension and bonus scheme. Excellent opportunities with a rapidly growing organisation. — Write Box V.4553, "The Contract Journal."

MANUFACTURING company are offering a progressive position to an experienced PLANT SALESMAN. Must live in the Essex area. — Write, giving full details of career to date, to Personnel Manager, Box V.4573, "The Contract Journal."

draughtsman, ENGINEERING ASSISTANT, ARCHITECTURAL ASSISTANT. These positions, which are immediately available, offer first-class opportunities to successful applicants. — THE MICHAEL KNIGHT GROUP, New Road, Newhaven, Sussex. Newhaven 515.

CIVIL ENGINEERS

EDMUND NUTTALL, SONS AND CO. (LONDON), LTD., have vacancies for **SENIOR and JUNIOR ENGINEERS** for work on the Clyde Dock project, Greenock. Applications should be addressed to:

EDMUND NUTTALL, SONS AND CO. (LONDON), LTD., 22 Grosvenor Gardens, London, S.W.1.

CIVIL ENGINEERING ASSISTANT ESTIMATOR. Must be experienced, and preferably have had site experience as an Engineer. Permanent position with pension scheme. — Write in first instance to SIR JOHN JACKSON, LTD., 53 Victoria Street, London, S.W.1.

CONTRACTS CLERK REQUIRED in London office of a civil engineering and asphalt contracting company. Duties: Preparation of work initiation documents; submission and control of interim and final accounts. A young man would be preferred, but a man of experience and conscientious work will be enthusiastic and efficient. This is a permanent, permanent position which offers a stake in the future of a go-ahead company. — Write, giving particulars, to H. V. SMITH AND CO., LTD., Walkden House, Mellor Street, N.W.1.

OUTSIDE SUPERVISOR REQUIRED for medium-sized building and civil engineering contractors. Salary £1,000 p.a. Own staff informed of this appointment. — Write Box V.4558, "The Contract Journal."

CONTRACTORS' PLANT AND TOOLS

Young INSIDE SALESMEN with knowledge of contractors' plant or tools REQUIRED for the head office of well-known company. The posts, which are in West London, carry starting salaries of £750-£775 and bonuses. Excellent prospects of advancement. — Write, giving age and experience, to:

BOX V.4607, "THE CONTRACT JOURNAL."

REQUIRED immediately, One **GENERAL FOREMAN**. Fully experienced in heavy earthmoving; able to handle and organise Caterpillar and rubber-tired scraper fleets. One **GENERAL FOREMAN** who is a carpenter tradesman, able to supervise men, erect all classes of shoring, familiar with all types of reinforced concrete work, and rates of pay, substance and bonus scheme. — Apply in writing to the Agent, SIR LINDSAY PARKINSON AND CO., LTD., Oldbury Power Station, Thornbury, near Bristol.

REQUIRED immediately. Fully experienced **STORE-KEEPER** to take charge of large stores, able to deal with staff, and fully conversant with stock and issue records. Top salary paid to the right man. Apply in writing to the Agent, SIR LINDSAY PARKINSON AND CO., LTD., Oldbury Power Station, Thornbury, near Bristol.

CHARGEHANDS WANTED for precast concrete works. Applicants should be keen and conscientious, and with a knowledge of the trade. — Apply ANGLIAN BUILDING PRODUCTS, LTD., Atlas Works, Lenwade, Norwich.

APPOINTMENTS VACANT

CLASSIFIED ADVERTISEMENT RATES:

Classification	First Four Lines Or Less	Each Additional Line
APPOINTMENTS VACANT	12/-	2/6
APPOINTMENTS WANTED	7/6	1/6
WORK REQUIRED, BUSINESS OPPORTUNITIES, BUSINESSES FOR SALE, D.R.C., FINANCE, PROFESSIONAL SERVICES, AGENCIES, HORTICULTURAL PROPERTY, SALE BY AUCTION, PLANT AND MISCELLANEOUS	14/-	3/-
BOX NO. 1/- EXTRA.		

A GENT/GENERAL FOREMAN REQUIRED for large private housing development in Wiltshire. Must be thoroughly experienced. Excellent salary and bonus for suitable man. — Write, stating age, experience, and present emoluments, to Box V.4572, "The Contract Journal."

ENGINEER REQUIRED for tunnel contract in compressed air, London area. — Apply C. V. BUCHAN AND CO., LTD., Victoria Road, Burgess Hill, Sussex.

ENGINEERS REQUIRED for general duties on various main drainage contracts throughout the country. — Apply C. V. BUCHAN AND CO., LTD., Victoria Road, Burgess Hill, Sussex.

QUALIFIED and experienced QUANTITY SURVEYOR REQUIRED. Cost-conscious. Wide knowledge of the building trade. Supervision and control of sub-contracts, negotiation of contracts, experience in housing, and large factory and office extensions. Large-scale building and civil engineering. Works procedure to final accounts. — Write Box V.4594, "The Contract Journal."

OFFICE MANAGER REQUIRED by national building contractors, in area office, Manchester. Experience in office, cashier, or Site Accountant desirable; good administrative ability and sound knowledge of building industry essential. Pension scheme and other attractive conditions available to suitable applicant. — Write, stating age, experience, present salary, to Box V.4593, "The Contract Journal."

AUDITOR, Internal/Travelling, REQUIRED by building contractors, involving visits and duties in area offices and contract sites, London, Midlands and Home Counties. Applicants (qualified), age 25-40, with sound commercial experience, essential; knowledge of building industry desirable. Progressive salary, pension scheme, and other attractive conditions. — Write, with usual particulars, to Box V.4592, "The Contract Journal."

REINFORCED CONCRETE DESIGNER DRAUGHTSMAN REQUIRED for work in conjunction with floor and allied construction. Must be capable of working with minimum supervision and of taking control of other draughtsmen. Qualifications of at least three years' design experience, with H.N.C. Good salary; stay week; pension scheme and life assurance. — Apply, stating age, experience, and present salary to SAMUEL TYACK AND CO., LTD., Fulwell Road, Sunderland.

ASSISTANT CIVIL ENGINEER or SURVEYOR

REQUIRED for setting out work on Rheidol hydroelectric project, near Aberystwyth. Salary scale £800-£900 per annum, plus cost-of-living allowance. Accommodation available in staff quarters, if required. Apply, giving particulars of past experience, to:

THE CEMENTATION CO., LTD., Civil Engineering Division, Bentley Works, Doncaster.

OFFICE MANAGER REQUIRED for civil engineering section, with experience in preparing statements, costs and ordering materials for all types of civil engineering work. — Write, giving details of age, experience and salary, required, to Box V.4586, "The Contract Journal."

ENGINEER/GENIE REQUIRED for the supervision of contracts in the Home Counties. This will be based in a London office and should have a minimum of three years' site experience. — Write, giving details of age, experience, and salary required, to Box V.4587, "The Contract Journal."

GENERAL FOREMAN REQUIRED for construction of sewers and sewerage works in Home Counties. Write, giving details of age, experience, and salary required, to Box V.4588, "The Contract Journal."

GENERAL FOREMAN REQUIRED for construction of sewerage works near Cambridge. — Write, giving details of age, experience, and salary required, to Box V.4589, "The Contract Journal."

ENGINEER AGENT, preferably qualified, with at least five years' site experience on contracts of £100,000 and over. REQUIRED by civil engineering department of CONCRETE PILING, LTD., for sewage disposal plant contracts. Please send details to Concrete Piling, Ltd., 10 Westminster Palace Gardens, Artillery Row, Victoria Street, London, S.W.1.

ASSISTANT QUANTITY SURVEYOR REQUIRED by building and civil engineering contractors operating in Cheshire and North Wales area. — Write, giving full details of age, qualifications, experience, and salary required, to Box V.4584, "The Contract Journal."

ASSISTANT PLANT MANAGER REQUIRED by a medium-sized plant hire and contracting firm on South Coast. — Applications, stating full particulars, to the General Manager, G. and G. F. MAIDMENT (POOLE), LTD., Cranbrook Road, Parkstone, Dorset.

BOOK-KEEPER (Male), fully competent and experienced, REQUIRED by civil engineering contractors for their head office at Walton-on-Thames. Permanent position; pension scheme. — SHELLABEAR, PRICE, LTD., Auckland House, New Zealand Avenue, Walton-on-Thames.

FIRST-CLASS AGENT, SITE ENGINEERS and GENERAL FORMAN REQUIRED immediately for road and bridge contracts commencing shortly in London area. — Apply, giving details of experience, age, and salary required, to ALDERTON CONSTRUCTION CO., LTD., Moor Lane, Chessington, Surrey.

APPOINTMENTS VACANT

REQUIRED immediately. Experienced **CASHIER**, and also experienced **TIMEKEEPER/WAGES CLERK**. Apply in writing: The Agent, SIR LINDSAY PARKINSON AND CO., LTD., Oldbury Power Station, Thornbury, near Bristol.

YOUNG MATERIALS BUYER WANTED for expanding civil engineering company, south-west London area. Top wages and prospects for an energetic young man. — Write Box V.4578, "The Contract Journal."

ENGINEERS, experienced in structures and road works, REQUIRED for Great West Road contract. Write, giving full details of experience, last three emoluments and salary required, to Contracts Manager, FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

ESTIMATOR

Experienced CIVIL ENGINEERING ESTIMATOR REQUIRED for head office appointment. Site and estimating experience required in some or all of the following: Heavy reinforced and mass concrete foundations, piling, earthworks, bridges, tunnelling and dams. Good salary, conditions and prospects, and entry into company's superannuation scheme arranged after probationary period. — Apply, in writing, to:

The Chief Estimator,
THE MITCHELL CONSTRUCTION CO., LTD.,
Wharf Works, Peterborough.

CLERK OF WORKS, with experience of civil engineering, REQUIRED for work in connection with the construction of Dungeness Nuclear Power Station, Faversham, Herne Bay, Folkestone, Ashford and Hastings areas. — Please apply in writing, stating age, qualifications and experience, together with details of salary required to Group Resident Engineer, THE NUCLEAR POWER GROUP, Dungeness Power Station, Romney Marsh, Kent.

FIRST-CLASS AGENT REQUIRED for large reinforced concrete superstructure contract in Kent area. A good salary is offered to the right man. Bonus, etc., also available during interview. — Apply in confidence, stating age, experience, and previous employers, to Box 1058, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

JUNIOR CIVIL ENGINEER REQUIRED by PILING AND CONSTRUCTION, LTD., a company in the Richard Costain Group. This post, which is based on Croydon, involves travelling throughout the Greater London area, setting-out and supervising piling operations. Age 20-25, should possess O.N.C. and be proficient in the use of instruments. Excellent prospects for advancement in this field of engineering. Please write to Personnel Manager, 111 Westminster Bridge Road, London, S.E.1.

CUBITTS

REINFORCED CONCRETE DESIGNERS/DETAILERS REQUIRED for an expansion of structural drawing office. The work will be interesting and involve the use of precast and prestressed concrete. Experience in these fields will be an asset, but opportunity will be provided for training those who are interested and have some basic knowledge of reinforced concrete. Please send full details to:

Personnel Manager (M.6850),
HOLLAND AND HANNAN AND CUBITTS
(GREAT BRITAIN), LTD.,
1 Queen Anne's Gate, London, S.W.1.

CIVIL ENGINEERING AND BUILDING GENERAL MANAGER REQUIRED to take control of medium concern in the London area. The successful applicant must have extensive experience in the commercial, technical and practical fields. Top salary and allowances, together with the possibility of directorship after a probationary period. Applications will be treated in the strictest confidence. — Write Box V.4623, "The Contract Journal."

FIRST-CLASS ENGINEER AGENT REQUIRED to take charge of sewerage and sewage disposal contract in Hertfordshire area. Maximum salary and excellent prospects for the right man. — Write Box V.4624, "The Contract Journal."

AGENT WANTED for concrete piled sea outfall in South Wales. The appointment will be a permanent one, and offers excellent prospects to a keen young Engineer with some previous experience of piling for the right man. — Write Box V.4624, "The Contract Journal."

ENGINEER REQUIRED for site levelling and setting out on various contracts. Experience essential. Transport provided. Good prospects for expanding engineering. — Write in writing, giving age, experience, and salary required to FARMROLE AND MCIVIE, LTD., 10 High Street, Welwyn, Hertfordshire.

CIVIL ENGINEERS (Senior and Assistants) REQUIRED by London civil engineering contractor for a variety of interesting contracts embracing bridge and marine works in S.W. and N.W. England. Write brief details of experience to Box 595 L.P.E., 60/62 St. Martin's Lane, London, W.C.2.

A. MONK AND CO., LTD.

Warrington, Lancs, have vacancies for **SENIOR and ASSISTANT CIVIL ENGINEERS** on contract sites 10-15 miles radius of Warrington. Applications are invited from young qualified engineers who are keen and energetic, capable and experienced in the duties and responsibilities associated with these positions. Permanent and progressive posts. — Applications: In confidence, stating age, full details of experience and qualifications, etc. to:

Personnel Manager,
A. MONK AND CO., LTD.,
Padgate, Warrington, Lancs.

HIGH LEVEL POSITION—PLANT HIRE MANAGER. Expanding company offers immediate opening to keen, competent and adaptable Executive having wide experience, contacts, and organising ability. Promotion to directorship envisaged for the right man. High salary; car provided. — Phone or write: H. M. Mattock, Managing Director, POWER PLANT HIRE, LTD., Beddington Lane, Croydon, Surrey. Thornton Heath 3402.

PLANT HIRE OFFICE MANAGER WANTED for CHAMBERLAIN PLANT, LTD., at their Enfield office. Good contacts and experience in hire of contractor plant necessary. — Please send details to General Manager, at Crown Works, Southbury Road, Enfield, Middlesex.

APPOINTMENTS VACANT

ENGINEER AGENT.—Medium-sized and expanding Birmingham company of civil engineering contractors engaged on a variety of works and with sound financial resources, propose to appoint an additional Engineer Agent to be based in Birmingham, with the intention of promotion to Contracts Manager when ability has been proved. Applications must have had considerable experience in organising and carrying out civil engineering contracts of various types up to final account stage. The company will expect and demand hard work, loyalty and initiative, and in return rewards will be commensurate.—Applications in writing, which will be treated in strict confidence, giving full details of age, education and approx. salary required, to Box V.4609, "The Contract Journal."

STOREKEEPER REQUIRED. with knowledge of general stores procedure, on civil engineering projects. Apply THE CEMENTATION CO., LTD., Nant-y-Moch Contract, Ponterwyd, near Aberystwyth, Cardiganshire.

BUILDING OVERSEAS (LONDON BASED)

Substantial national building and civil engineering contractors REQUIRE a BUILDING CONTRACT MANAGER to take charge of building work, and the work in civil engineering contracts, overseas; and to some extent at home also. He would be responsible to the manager of the civil engineering department. He must be prepared to make regular, perhaps monthly, visits overseas for ten days at a time, and also to stay overseas for four months at a time, if necessary, for the commencement of new contracts. The essential qualities sought are a wide technical competence in building, the ability to supervise, energy and good health. Formal qualifications are not considered to be essential, although a pension. Age 35-50. Salary in the range £2,000-£2,500, depending on ability. Car provided. Contributory pension.—Please send full details, in strictest confidence, to:

BOX V.4548, "THE CONTRACT JOURNAL."

EXPERIENCED SITE ENGINEER REQUIRED by civil engineering contractors for roadworks, main drainage and sewage disposal contracts. Southern region. Position is permanent, with pension scheme, carrying a substantial salary, and offers exceptional prospects of advancement to higher grades in an expanding organisation.—Write in confidence, stating age, full details of experience, and past employers, together with salary required, to Box V.4608, "The Contract Journal."

QUALITY SURVEYOR (Assistant) REQUIRED by British building and civil engineering contractors for 1/2 year tour in East Africa. No family liability. Must be experienced in contractors' site measurement. Write brief details, age and experience, to Box CJ 689, L.P.E., 60/62 St. Martin's Lane, London, W.C.2.

GENERAL FOREMAN/AGENT (trade essential) REQUIRED by Southern civil engineering contractors. Permanent progressive position is offered to experienced energetic men.—Write, giving details of salary, age and experience, to NICHOLSON CONSTRUCTION CO., LTD., Freeland House, Cranleigh, Surrey.

SITE AGENTS and GENERAL FOREMEN

Are REQUIRED to take charge of large contract sites throughout Scotland. Applicants must have had considerable experience of controlling large contracts covering all classes of building. The positions are permanent, offer prospects of advancement, and carry good salaries.—Applications, which will be treated in the strictest confidence, should contain full particulars of age, qualifications (if any) and experience, to:

BOX V.4567, "THE CONTRACT JOURNAL."

THE CROFT GRANITE, BRICK AND CONCRETE CO., LTD., Croft, Leicestershire, REQUIRE an ASSISTANT WORKS MANAGER at their Croft Works, to supervise the manufacture of hydraulically pressed, split and precast concrete products. The successful applicant will be required to assist initially in the installation of extensions to the company's standard products departments.—Reply in writing, stating age and experience, to the Works Director.

GENERAL FOREMAN, capable of earning £2,000 a year, WANTED for prestressed concrete bridge in South of England. Must be a first-class man, fully experienced in heavy civil engineering construction, particularly when high-quality shuttering is required. Salary will depend upon experience, with time, overtime and allowances will be as high as £2,000 p.a., or even higher, for the man we want.—Write, with brief details of career, to Box V.4632, "The Contract Journal."

WILLIAM PRESS AND SON, LTD.

Applications are invited from experienced and qualified DESIGNERS and DRAUGHTSMEN to fill vacancies in the following sections: Piping—chemical plants, works, services, industrial, civil, chemical and structural; R.C. and steel structures associated with above; Mechanical—detailing of steel fabrications and ancillary equipment, pressure vessels and general plate work; Architectural and Building—offices and maintenance buildings in modern building materials, services and decorations. These positions are permanent, superannuable, with good benefits and offered with good progressive salaries to applicants between the age of 25-40 years with at least five years' experience and a minimum qualification of O.N.C.—Write, giving full details, to:

Personnel Officer,
WILLIAM PRESS AND SONS, LTD.,
Civil and Mechanical Engineering Contractors,
Willoughby Lane, N.17.

HOVERINGHAM GRAVELS, LTD.—Due to expansion and promotion, the company, Hoveringham Gravels, Ltd., require applicants for the appointment of a MECHANICAL ENGINEER. Applicants must be aged 30 to 35, be members of the Institute of Mechanical Engineers, and have had considerable experience in the repair and overhaul of civil engineering plant and transport. Experience in quarry plant would be an advantage. Starting salary will be within the scale £1,350 to £1,500 p.a. but sufficient scope exists for a competent Engineer to earn a considerably higher salary within a reasonable period. A pension scheme is in operation, and a car will be provided.—Applications, which will be treated in confidence, should be marked "Mechanical Engineer and addressed to Hoveringham Gravels, Ltd., Hoveringham, Nottingham.

THE CONTRACT JOURNAL

APPOINTMENTS VACANT

ENGINEERING AND PRODUCTION MANAGER REQUIRED for large sand and gravel quarries, and for transport, plant maintenance and construction department. Age 35 to 45 years. Expanding private company in sand and gravel production, ready-mixed concrete and concrete products. Annual output 500,000 cu. yd. Value of equipment £350,000. Salary according to ability, not less than £1,800 plus comm. progressive superannuation. South Coast situation.—Write Box W.4629, "The Contract Journal."

SENIOR COMPANY AGENT.—An expanding company of building contractors REQUIRE a Senior Company Agent to take complete charge of two adjacent flats contracts, totalling a value of over £1m., in a South Coast industrial area. The successful applicant will be required to take complete responsibility for the performance of the contracts, and will sit at all times at the personal representative of the board of directors. He must have received an extensive experience in site managerial duties, and his qualifications should include a sound technical, as well as practical training, and possess drive and ability to manage and plan all trades and technical site staff. The company shortly plan to open further offices in the area, and further business develops. The successful applicant will, therefore, have early prospects of regional management before him, after a reasonable proving period. The position offers a high commencing salary, allied with a generous discretionary bonus and car. Assistance with house could also be considered if necessary.—Write in confidence to Managing Director, Box V.4626, "The Contract Journal."

LAND AND MARINE CONTRACTORS, LTD.

International civil engineers and submarine pipeline specialists, REQUIRE

QUALIFIED CHARTERED CIVIL ENGINEERS Minimum age 25 years, with sound engineering experience (preferably including tidal or marine work) to undergo extensive training as AGENTS on submarine pipeline projects at home and overseas. Must be prepared to work internationally for varying periods.

GRADUATE CIVIL ENGINEER To commence training in design and hydrographic survey departments and ultimately to progress to permanent basis to agents. Scope for "Section C" of I.C.E. This is an excellent opportunity to undertake challenging work with excellent prospects. Salary according to age, qualifications and experience. Superannuation scheme in operation.—Write (marking confidential) to:

A. J. Weilburg, Managing Director,
LAND AND MARINE CONTRACTORS, LTD.,
Spital Road, Bromborough, Wirral, Cheshire.

WORKING FOREMAN REQUIRED. Experienced in international civil engineers and submarine pipeline specialists, REQUIRE

A LEADING group of building and civil engineering contractors invite applications from BUILDING AGENTS and GENERAL FOREMEN, for appointments in the Midlands and South West England. The positions are permanent and pensionable and offer excellent prospects to men well experienced in taking charge of large building contracts, and who are accustomed to working to a very high standard.—Apply in confidence, stating age, experience in detail, and salary required to Box No. BA5441, A.K. Advertising, 212a Shaftesbury Avenue, London, W.C.2.

CUBITS REQUIRE A LABORATORY SUPERINTENDENT to take charge of all testing in the soils mechanics laboratory. Previous experience in the field is necessary and applicants should be able to control and instruct staff. The appointment is a new one and offers excellent scope for advancement.—Please send full details, in confidence, to Personnel Manager (M.6668), HOLLAND & HANNEN AND CUBITS (GREAT BRITAIN), LTD., 1 Queen Anne's Gate, London, S.W.1.

CUBITS—Applications are invited for the position of TOWER ENGINEERING ESTIMATOR. based on the London head office. Applications are invited, preferably from the construction industry, who have experience of tendering for all types of heavy civil engineering construction, but consideration will be given to men who have had site experience but who now wish to take up a more settled position. Training could be given in some circumstances. Please send full details to Personnel Manager (M.6668), HOLLAND & HANNEN AND CUBITS (GREAT BRITAIN), LTD., 1 Queen Anne's Gate, London, S.W.1.

FOREMAN, to take charge of construction of small concrete sewage works.—Reply, stating salary required, to LINDUM CONSTRUCTION CO., LTD., Silverwood Place, Stamp End, Lincoln.

A RABIAN GULF—CONSTRUCTION SUPERVISOR REQUIRED for planning, scheduling and supervising general oilfield construction by expanding American oil company. No immediate family accommodation. Home leave granted annually, and at present tax free. Salary £107-£125 per month.—Apply Overseas Technical Service, 3 Welldon Crescent, Harrow, Middlesex, quoting Ref. UK.28.

MATERIAL ESTIMATING ASSISTANT REQUIRED for progressive company of building and civil engineering contractors. He should be capable of estimating from specification, bill of quantities and drawings, all relevant details for formulating inquiries for quotations for materials, and able to assist by building-up the material components of costs in tenders. A good salary will be paid to the person having the experience required for this appointment. Applications in writing to the Chief Estimator, THOMAS FLETCHER AND CO., LTD., Forest Road, Mansfield, Notts.

For Advertisements received too late for classification see page 581

APPOINTMENTS WANTED

PLANT HIRE MANAGER SEEKS NEW POST. Experienced in all contractors' plant hire. Age 31 years.—Write Box W.4543, "The Contract Journal."

SENIOR ESTIMATOR SEEKS CHANGE. Good experience of building and civil engineering. Good class work.—Write Box W.4544, "The Contract Journal."

PRODUCT ENGINEER SEEKS POST with company operating a group of sand and gravel pits. Conversant all methods of production.—Write Box W.4563, "The Contract Journal."

CONTRACTS MANAGER / AGENT (58) SEEKS SUITABLE APPOINTMENT. Wide experience administration, planning, all classes construction. Interviews 14th-25th August.—Write Box W.4514, "The Contract Journal."

APPOINTMENTS WANTED

CONTRACTS MANAGER/SENIOR ESTIMATOR (46) SEEKS PROGRESSIVE POST. Wide experience roads, main drainage, reinforced concrete structures, bridges, bulk excavation, etc. Post offering scope for advancement on satisfactory results only considered. Please write Box W.4562, "The Contract Journal."

MAN, semi-retired, SEEKS POST where services would be useful, 25 years' building and civil engineering, 15 years' buying office experience. Write Box W.4621, "The Contract Journal."

PLANT HIRE MANAGER, late 20s, SEEKS NEW POST. Preferably in Kent. Current car licence. Minimum salary £850 per annum. Write Box W.4622, "The Contract Journal."

CHIEF ACCOUNTANT (Qualified) and/or COMPANY SECRETARY, many years experience in building and civil engineering industries SEEKS APPOINTMENT in London or the south. Final costs and management accounts, budgetary control, administration, etc. Write Box W.4627, "The Contract Journal."

WORK REQUIRED

SITE CLEARANCE, BULK EXCAVATION. S. JAMES AND CO., LTD., Trading Estate, Slough. Telephone: Slough 20361-Ext. 4.

CONTROLLED EXPLOSIVES, LTD., specialise in the controlled destruction of mass and reinforced concrete, inside or outside buildings. Demolition of bridges and chimneys, mass, rock, trenching, sewage beds, engine beds, etc. and deep drilling for quarries. Particulars from 11 Church Street, Oldbury, Birmingham. Tel: B.R.20dell 3117, Blackheath 1996 & 1783.

III CLEARANCE CO., LTD., specialists in removal of trees and roots. Explosion Engineers and Demolition Contractors.—Dept. Dene, Quarry Lane, Appleton, Warrington. Telephone: Stockton Heath 309.

EXCAVATION SUB-CONTRACTS. Technical staff available to analyse programme and price complex projects. Particular attention given to hatching and compaction. Details TD18 and TD14 Scrapers, Excavators, Dozers, Loading Shovels and Lorries available with competent and imaginative supervision for execution of work.—DICK HAMPTON, Broadview Farm, Blacknest, Alton, Hants. Tel: Bentley 3241.

IF GRADING, SEEDING, TURFING and PLANTING part or all of your CONTRACT, we will be pleased to quote you.—HOLDRUP, 139 Bells Hill, Barnet. Telephone: 9111.

UPROOTING—TREES, STUMPS, HEDGES, etc. We have the most experience and all modern equipment.—T. GRAVESEN, LTD., Warton, Carnforth, Lancs. Telephone: Carnforth 381 and 382.

DEMOLITION, SITE EXCAVATIONS, PLANT HIRE. Hardcore supplied.—D. W. STONE, LTD., 2 St. Leonards Road, Hove. Tel: Hove 46396.

WANTED, EXCAVATION, SITE CLEARANCE and DEMOLITION WORK. R. BARKER (PECKHAM), LTD., New Cross 3337.

BULK EXCAVATIONS and SITE WORKS undertaken. Direct or on SUB-CONTRACT basis. Quotations given for large or small contracts anywhere.—S. AND L. BULL BROS., LTD., 126A High Street, Winchester. Telephone: Winchester 2264.

DROTT BT6, fitted Winch and Priestman Cub Vs. HIRE or CONTRACT WORK.—JAMES COOPER, LTD., 28 Kensington Church Street, London, W.8. WESTERN 3412.

OVERSIZE PREPARATION AND COMPACTION with MODERN MACHINES.—Write or phone: SAM BOOTH, LTD., 75 Victoria Street, London. Telephone: Sullivan 3791 and Haywards Heath 1126.

BULK EXCAVATIONS, any quantity quoted for. COFF AND SONS (EXCAVATIONS), LTD., Buckhurst Hill, Chipping, Ascot, Berks. Ascot 1026/7/8.

ERCTION and DISMANTLING. Structural Steelwork and all types of prefabricated Components. Speedy and efficient service.—ERECTOR, 80 Bulwell Crescent, Cheshunt, Herts. Waltham Cross 22564.

SITE CLEARANCE, EXCAVATIONS, ROADS, SEWERS, etc. COFFEY AND SON, LTD., 147 Rushey Green, Catford, S.E.6. Hither Green 8667.

SPRAY PAINTING and all INDUSTRIAL DECORATING CONTRACTS WANTED. SPECIALISED DECORATING CO., Scotland House, Bonstall, Arundel, Sussex.

CONTROLLED BLASTING (HOME AND OVERSEAS). Explosives Specialists, Bridges, Quarries, Rock/Pipe Trenching, Marine Structures. All types of Blasting.—42 Richmond Road, Ilford, Essex. Tel: Ilford 0396—day and night.

EARTH REMOVING, BULK EXCAVATIONS. Large or small contracts undertaken. No loader charges. BENJAMIN LOMAX, 18-20 Gaskell Street, Bolton. Telephone: Bolton 26895 or 43962.

WANTED, HIRE or CONTRACT WORK for modern fleet of Caterpillar 631 Motor Scraps, D9s, D8s, 15 cu. yd. Rear Dump Euclid and 388 Face-shovel.—Apply: BRODRICK AND RYAN, LTD., 421 Nottingham Road, Ilkeston, Derby. Tel: 4381/23.

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GROUNDWORKS, EXCAVATION, CONCRETING, ROADWORKS, PAVING of all types.—GRANDGRADES CIVIL ENGINEERS, LTD., 90 Bishopton, E.C.2. Tel: Ave. 5040.

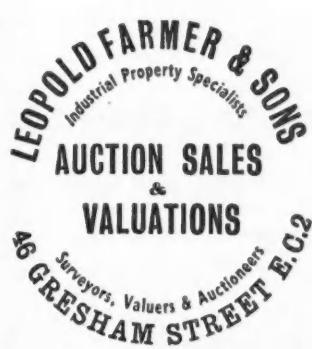
HIGHWAY CONTRACTORS, LTD., invite inquiries for large or small EARTHMOVING CONTRACTS. Direct or on Planting Fields and Site Excavation with modern fleet of Caterpillar DW21s, D9s, D8s, D7s, Traxcavator 977s, 955s, 933s, Euclid TS14s, and Ruston Excavators.—Contact Head Office, HIGHWAY CONTRACTORS, LTD., 146A Bath Street, Ilkeston, Derby, or phone Ilkeston 4376/7.

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MUD and WEEDS DREDGED from reservoirs, lakes, rivers and canals.—BOMFORD AND WILKINS, LTD., Dredging and Excavating Contractors, Binton, Stratford-on-Avon, Warwickshire. Welford-on-Avon 404.

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BULK EARTHMOVING. direct contract or sub-contract. Also BULLDOZERS and SCRAPERS for HIRE.—FRANK R. WALPOLE, LTD., 126 Wing Road, Leighton Buzzard, Beds. Leighton Buzzard 3351.



BUSINESSES—SALE OR WANTED

PRIVATE BUYER wishes to ACQUIRE PLANT HIRE BUSINESS in Home Counties area. Capital available. Write Box X.4541. "The Contract Journal."

PLANT HIRE BUSINESS for SALE, north western area. Garage, workshops, offices and yard. Ideally situated for industrial areas. Write Box X.4583. "The Contract Journal."

READINGS (Newbury area). CONTROLLING INTEREST WANTED IN PLANT HIRE CONTRACTING or similar business. Capital available. Write Box X.4631. "The Contract Journal."

INVENTIONS

INDUSTRIAL ENGINEERS OF REPUTE invite in strict confidence, DETAILS OF INVENTIONS, with object of manufacturing or world distribution. Write Box K.L.517 "The Contract Journal."

DIVING

DIVERS and FROGMEN at immediate notice. DIVING SPECIALISTS LTD., Dartford 24139. Night—Farnham 2452.

REED AND MALLIK, LTD., Civil Engineering Contractors (Diving Division), Milford Manor, Salisbury Wiltshire Telephone 5141.

FOR YOUR UNDERWATER WORK, contact the FOLLOWING MEMBERS of the ASSOCIATION OF UNDERWATER CONTRACTORS—Southampton 56578. Conroy Lewis, Ltd., Southampton—Southampton 56578. Diving Specialists, Ltd., Dartford—Dartford 24139. Dockland Diving Engineers, Dagenham—Dominion 3189.

Overseas Divers, Ltd., Whitby—Whitby 598. A. J. Parsloe, Brighton—Brighton 61228. Underwater Welders and Repairs, Ltd., Cardiff—Cardiff 29631.

Universal Divers, Ltd., Liverpool—Liverpool Cent. 4226. The Association of Underwater Contractors, London—Gerrard 0328.

DIVERS IMMEDIATELY AVAILABLE. Welding, cutting, construction, etc. Any part of world. UNDER WATER WELDERS AND REPAIRERS, LTD., Cardiff. Tel. 29631. (After hours: Penarth 58131.)

FINANCE

LIMESTONE QUARRY, West Gloucestershire, engaged in the production of road materials, aggregates, etc. REQUIRES ADDITIONAL CAPITAL £12,000-£15,000. Capital secured by issue of Preference or Ordinary Shares. Write Box X.4509. "The Contract Journal."

PROSPEROUS BUILDERS' AND CONTRACTORS' BUSINESS, Manchester district. Senior director WISHES TO DISPOSE OF SHARES in a limited company. Arrangements can be made to carry on as an Assistant in the business. Turnover about £80,000 per annum. Write Box X.4510. "The Contract Journal."

HORTICULTURAL

TURFING—SEEDING—HEDGING. Quotations for all branches of landscape work, anywhere in the U.K. C.E. contracts a speciality. WEBSTER BROS., of Horsham, West Sussex. Tel. 2364.

TURVES.—Machine-cut, 3ft. x 1ft., close mown, weed-treated, 60/- per 100. Keen trade rates. We will be pleased to quote for your levelling and laying. E. R. RANCE, LTD., 24 Sheepcot Lane, Watford. Telephone: Garston 2725.

TURFING—SEEDING—PLANTING. Competitive prices throughout U.K.—KENTISH LANDSCAPES LTD., Dillywood Lane, Higham, Rochester. Telephone: Strood 78028.

BULK TURF and TOP-SOIL DELIVERIES 24-hour quotations given for London and Home Counties. J. P. TOMLINSON, Longlands Nursery, Blackness Lane, Kent, Telephone: Farnborough (Kent) 51000.

ROTARY CULTIVATION, GRADING, EARTH-MOVING, TURFING, Contract or daywork basis. JAMES COOPER, LTD., 28 Kensington Church Street, London W.8. WESTERN 3412.

EDWARD GAIT CONSTRUCTION, LTD., 174 Park Road, Kingston, Surrey (Tel. 9382). All types of Horticultural and Sportsground work undertaken. Ferguson Tractors and Emulsion Sprayers for HIRE.

FOR SALE. 20,000 cu. yd. TOPSOIL, ex Nursery (very good). Reading area.

10,000 cu. yd. TOPSOIL (good). Aldershot area. 20,000 cu. yd. FILLING-Sandy Loam. Guildford. Aldershot and Farnham areas.

Deliveries 200-300 cu. yd. daily.

BRYAN WATTRIDGE (PUBLIC WORKS), LTD., The Sand Pits, Seale, near Farnham, Surrey.

Telephone: Runfold 2229.

DERBYSHIRE WEATHERED LIMESTONE for rockeries.—Send your requirements for quotation to PETER B. GODLEY, Carsick Hill Nurseries, Sheffield, 10.

SOILING, SEEDING and TURFING. Site Clearance, Excavation and Levelling Work undertaken in any part of the U.K. at competitive prices.—GILLIAM. Purley, U.Plants 9222/6.

FOR SALE, TURVES, old meadow, 3 x 1, weed-treated, cut by the latest American machines, 60/- per 100. Discount off large orders. Landscape Gardening done. Farmyard Manure supplied. Rubbish removed.—MOYO TURFING CO., 7 New Road, Sudbury Hill, Harrow. Telephone: BYRon 4411.

SALES BY TENDER
CHESHIRE COUNTY COUNCIL.
ROADS AND BRIDGES DEPARTMENT.
DISPOSAL OF PLANT.

TENDERS are invited for the PURCHASE from the COUNTY COUNCIL of USED PLANT, namely: Lister Auto. Truck, Rollers, Concrete Mixers, Trench Excavators, Road Drills and Rammers, Mechanical Ladders, Autocycles, Autosetts, Hedge Cutters, Road Sweepers (trailer type), Tippers, Tarsprayer, and Miscellaneous Plant Equipment and Scrap.

Particulars, Conditions and Form of Tender can be obtained from the undersigned, with whom arrangements may be made to inspect the plant.

Tenders should be sent to the Clerk of the County Council, County Hall, Cheshire, in plain sealed envelope endorsed "Disposal of Plant," not later than Noon on MONDAY, the 28th August, 1961.

The County Council do not bind themselves to accept the highest or any Tender, and will accept Tenders for one or more items of plant.

C. G. DAY, County Surveyor.
County Surveyor's Department, Backford Hall, Near Chester. July 1961.

BOROUGH OF WANSTEAD AND WOODFORD.

FOR SALE: Printing Machine (E. N. Mason) — Non-continuous, horizontal. Approx. 25 years old, in working condition.

Developer (Adme)—Kluxon Electric Motor, single-phase, 50-cycles.

Developer (E. N. Mason)—Hand operated.

Plan Film Cabinet—Vertical type. Overall dimensions 4ft. 6in. 2ft. 6in. x 3ft. 8in. high. Steel. Olive green finish.

Particulars and Forms of Offer to be obtained from the BOROUGH ENGINEER, Municipal Offices, High Road, Woodford, E.18, and to be returned by 18th AUGUST, 1961.

BOROUGH OF ENFIELD.

For DISPOSAL, One 600-gallon Bristow's BITUMEN DISTRIBUTOR (1954), complete with accessories, mounted on a trailer. Further details from BOROUGH ENGINEER AND SURVEYOR, 7 Little Park Gardens, Enfield.

BOROUGH OF BANBURY.

OFFERS are invited for One 10-ton Steam ROLLER (Fowler). First registered Nov. 1922. In working order. May be seen during normal working hours at Bridge Street Depot, Banbury.

Tenders must be delivered to the Town Clerk, Municipal Buildings, Marlborough Road, Banbury, not later than 12 Noon on 21st AUGUST, 1961, in plain sealed envelope endorsed "Steam Roller," and must bear an or mark or name indicating the sender. The Council do not bind themselves to accept the highest or any Tender.

FREDERICK G. BOYS,
Town Clerk.

WILMSLOW URBAN DISTRICT COUNCIL.

PUMPING EQUIPMENT FOR SALE.

The FOLLOWING SECOND-HAND EQUIPMENT is available for SALE, due to the redundancy of two small sewage pumping stations:

Two Adams Hydraulic 3in. Vertical Spindle Pumps, 75 g.p.m., with Electric Motors, starters and controls; also Valves and some Pipework.

One Adams Pump, as above, but 80 g.p.m., and Valves, etc.

Further details and Form of Tender may be obtained from the Engineer and Surveyor, Council Offices, Green Hall, Wilmslow, Cheshire, and TENDERS for the purchase of the equipment must be returned to the undersigned, in a plain sealed envelope endorsed "Tender for Pumping Equipment," by Noon on FRIDAY, 25th August, 1961.

Council Offices, Green Hall, Wilmslow. July 1961. Clerk of the Council.

THE SHEFFIELD CORPORATION.

CITY ENGINEER'S DEPARTMENT.

The FOLLOWING PLANT is offered for SALE by TENDER:— ALL ITEMS UNTAXED.

(V566) International Crawler Tractor, Type BTDG, 1 cu. yd. Shovel, 4-cyl. Diesel Engine, on 12in. low profile tracks, 1959. In fair condition.

No. 1 McKiernan-Terry Pile Hammer, can be worked by air or steam. In working order, second-hand.

Two 25cwt. Rollers, Petrol B.S.A. Single-cyl. Air-cooled Engine, and Spares. Purchased 1958. In working order.

Other sundry items of Plant.

Tender Forms, giving times and place of inspection, can be obtained from the CITY ENGINEER AND SURVEYOR, Town Hall, Sheffield, 1. Quote Ref. 2.

PROFESSIONAL SERVICES

SETTLED-OUT ENGINEERS and LAND SURVEYORS supplied with full equipment and transport to work singly or in teams in ANY PART OF THE WORLD. Motorways, multi-storey works, tunnels, route location, baselines, precise levels, machine setting, PRECISE SURVEYS, LTD., Worcester 27584.

AN INTERNATIONAL ORGANISATION offer for a short term, vacancies of fully qualified team of CIVIL ENGINEERING and BUILDING ESTIMATORS. Available only through having attained a full programme of successful tenders within the range of £200,000 to £21m. The team has a balanced outlook based on practical knowledge and experience. Interested contractors should contact the Box No., stating their preference for either work on individual tenders or over a period. Principals only.

Write Box X.4582. "The Contract Journal."

BUILDERS' ESTIMATES, etc.—My office will be closed for holiday from FRIDAY, 18th AUGUST, last to MONDAY, 4th SEPTEMBER, 1961. Last receipt date for completion by 18th—SATURDAY, 5th AUGUST.—C. D. HIGGINS, 2 Park Crescent, Leeds, 8. Telephone: 662117.

QUALIFIED and experienced DESIGN ENGINEER OFFERS SERVICES. Designs from clients' ideas, or implements, existing models. All types contractors' plant and earthmoving plant. Special knowledge of tropical conditions and requirements.

Write Box X.4635. "The Contract Journal."

SUPPLEMENT

579

FULLER HORSEY

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AUCTIONEERS AND VALUERS

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PLANT, MACHINERY AND

FACTORIES

Since 1807

10 LLOYDS AVENUE

LONDON E.C.8

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RENTALS

SALES BY AUCTION

By Order of the Secretary of State for War.

W.D. STORAGE DEPOT, ROTHERWELL, HEREFORD (about two miles from the centre of the City) RUSSELL, BALDWIN AND BRIGHT are instructed to sell by AUCTION, at the above DEPOT, on TUESDAY, 19th AUGUST, 1961, at 11 a.m. precisely

GOVERNMENT SURPLUS PLANT AND STORES including

MACHINE TOOLS, including Morey, Keighley, Atlas, Southbound, Rivett, Myford and other Lathes; Bannikin, Gatti, Le Blond, Newall, Wolf and other Grinders; Milwaukee, Ward, Haggas and Smith, Victoria, Atlas and Beck, and Decker Millers; Hesler, Polaroid and Jones and Shiman, Dilling, Machines; Guitars; Welding Plants; Woodworking Machines; Shaper; Air Compressors; Hardness Testing Machines, etc.; Two, FOURWAY PORTABLE CONVEYORS; TYRES; 11,000 BLANKETS; 14,500 GREATCOATS; PEL STOCKING and other CHAIRS; STEEL AND IRON GROUNDS; TABLES and MISCELLANEOUS FURNITURE and KITCHEN EQUIPMENT; MOTOR ALTERNATOR and GENERATORS; and other RADAR EQUIPMENT; ELECTRICAL and WIRELESS SPARES; ELECTRIC CABLE and SET-UP WINDING CABLE SPENS; M.T. and AIRCRAFT SPARES; also a large collection of DISMISSED STORES. Admission—One catalogue will admit two persons. The Secretary of State for War reserves the right to refuse admission.

View days, 10th, 11th and 14th August; also morning of Sale. Catalogues (1/- each—P.O.s only), obtainable from the Auctioneers' Offices, Dept. C.I., 20/21 King Street, Hereford. Telephone 4366—3 lines.

BUSINESS OPPORTUNITIES

OFFERED.—£50 CASH for INTRODUCTION to TYRE BUSINESS. Competitive terms, all types, carriage paid.—Write confidentially, CTS TYRES, Norwich.

CONTROLLING INTEREST in old-established PLANT HIRE CONTRACTING BUSINESS, operating from central Essex. Excellent workshops, 30 acres, genuine, great scope. Principals only. Write Box X.4504. "The Contract Journal."

OPPORTUNITY to ACQUIRE CONTROLLING INTEREST in well-established CIVIL ENGINEERING CONTRACTING BUSINESS on South Coast specialising in piling and underwater work. Capital required at least £10,000. Write Box X.4590. "The Contract Journal."

TOP-GRADE ADMINISTRATOR WANTS to JOIN expanding plant hire or allied business on DIRECTOR/PARTNER LEVEL. South only, not London. £10,000 (minimum) available. Write Box X.4507. "The Contract Journal."

ACCOMMODATION

FOR HIRE, all types of CARAVANS available. Usual amenities. From 40/- per week. Delivered anywhere.—CATERHAM CARAVAN CENTRE, LTD., The A.22 Roundabout, Godstone Road, Caterham, Surrey. Telephone: Upper Warlingham 3590/3807.

CARAVANS TO RENT for men with families. Rent £7 to £10 per month, anywhere. LANDSMAN'S SERVICES, Buckden, Huntingdonshire. Telephone: Buckden 287.

ACCOMMODATE YOUR EMPLOYEES in a 4-berth CARAVAN, fully equipped with heating, lighting, cooking and washing facilities. Hire rates from 50/- per week for four persons. Also MOBILE OFFICES. Delivered anywhere.—NORTHERN CARAVAN DISTRIBUTORS, Handforth, Cheshire. Mercury 4255/6.

AGENCIES

SPECIALISED PRECAST CONCRETE WORK REQUIRED in Midland and North West areas. Supplied ex works or delivered. Prompt attention. Please write to Box P.N.714. "The Contract Journal."

EXPANDING plant hire company wish to negotiate full backlog in these areas. Write Box X.4516. "The Contract Journal."

COMPANY specialising in approved civil engineering services in relation to the repair and maintenance of reinforced concrete structures and buildings, offer an ADDITIONAL REPRESENTATION to a FREELANCE REPRESENTATIVE with existing connection with industrial concerns, nationalised undertakings and civil engineering contractors. Knowledge of concrete work desirable. Good commission and retainer fee. Write Box X.4535. "The Contract Journal."

CONTRACTORS' PLANT.—Company holding unique plant in repair field in South Wales SEEKS GOOD SELLING AGENCIES. Good contacts exist with civil engineers, building and quarry trades, also some industrial. Energetic sales programme with first-class after-sales service assured. Write Box X.4611. "The Contract Journal."

FLOOR and WALL TILING contractors (including Vinyl) REQUIRE COMMISSION ONLY REPRESENTATION. Generous commission paid on work introduced. We offer keen prices, with reliable workmen.—Replies dealt with in strictest confidence by Director.—Write Box V.4634. "The Contract Journal."

HOWARD FARROW

Civil Engineering and Building Contractors
*wish to meet a number of able and qualified
 men to fill permanent posts in the U.K.*

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 Surveyors Senior General Foremen Trainee General Foremen

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 Foremen

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We are prepared to pay top salaries to those who match up to our requirements. All posts pensionable after probationary period.

Write with brief details or phone now to :

**J. W. Wilson, HOWARD FARROW LTD., Highfield Rd., London, N.W.11.
 MEadway 3232**

All replies will be acknowledged.

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Advertisements received too late for Classification

EAST SUFFOLK COUNTY COUNCIL GARRISON LANE, FELIXSTOWE—CONTRACT NO. 46.

TENDERS are invited for HEATING and PLANING, and SURFACING with $\frac{1}{2}$ in. BITUMINOUS CARPET, 10,000 sq. yd., in mid-September. Documents from COUNTY SURVEYOR, County Hall, Ipswich.

BOROUGH OF ILFORD. RECONSTRUCTION OF CRANBROOK ROAD (PART).

NORTHBROOK ROAD TO REDCLIFFE GARDENS.

The Corporation invites TENDERS for the RECONSTRUCTION of approximately 5,200 lin. yd. of EXISTING CARRIAGeway with 10in. REINFORCED CONCRETE on a 6in. HARDCORE SUB-BASE, the TAKING UP and RE-LAYING of approximately 1,000 lin. yd. of GRANITE KERBING and approximately 2,800 sq. yd. of PAVING, together with ancillary Works.

Conditions of Contract and Drawings may be inspected upon application to the Borough Engineer, Town Hall, Ilford, from whom the Special Conditions, Specification, Bills of Quantities and Form of Tender may be obtained on payment of a deposit of Two Guineas, which is returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in a plain sealed envelope, bearing no name or mark indicating the tenderer and endorsed "Tender for Reconstruction of Cranbrook Road (Part)" must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on the 22nd AUGUST, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

BOROUGH OF WARWICK.

WATHEN ROAD WATERCOURSE— CULVERTING AND REGRADING.

TENDERS on a FIXED-PRICE BASIS are invited for the CONSTRUCTION of approximately 100 lin. yd. of 36in. CONCRETE CULVERTS, REGRADING of approx. 350 lin. yd. of WATERCOURSE. Cleaning of approx. 120 lin. yd. of existing 36in. dia. Culvert, together with other appurtenant works.

Copies of the Specification, Bill of Quantities, General Conditions and Form of Tender may be obtained from the undersigned on payment of a £2.25 deposit. Tender not subsequently withdrawn.

Tenders should be returned, in the envelope provided, not later than First Post on WEDNESDAY, 30th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

C. E. BROWN, A.M.I.Mun.E.,
Borough Engineer and
Surveyor.

23 Jury Street,
Warwick.

URBAN DISTRICT COUNCIL OF NEWRY.

SEWERAGE SCHEME—CONTRACT NO. 1. CIVIL ENGINEERING WORKS.

TENDERS are invited from experienced contractors for the CONSTRUCTION of the FOLLOWING:—

(a) Sewage Treatment Works for the Town, comprising Inlet Ponds, Sedimentation Tanks, Sludge Dewatering Tanks, Pumping and Administrative Buildings, Sludge Drying Beds, River Outfalls, together with Piling and ancillary Works.

(b) Approximately 920 lin. yd. 18in. diameter, 295 lin. yd. 4in. diameter, 790 lin. yd. 3in. diameter, 100 lin. yd. Main.

(c) Sewage and Stormwater Pumping Station and approximately 410 lin. yd. Low Level 21in. diameter Inlet Sewer.

(d) A 21in. diameter Pipe Crossing under Newry Canal by Throstle Bridge and a 21in. diameter Pipe Crossing under Newry River.

Copies of the Contract Tender documents, with principal Plans, may be obtained from, and all Plans inspected at, the office of the Council's Consulting Engineers, MESSRS. MURKIN AND KELLY, 133 University Street, Belfast, 7, on deposit of Five Guineas. (Cheques in favour of Newry U.D.C.)

Pipes may also be inspected at the Council Offices, Town Hall, Newry. Deposits will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in sealed envelopes endorsed "Newry Sewerage Contract No. 1," must be delivered to the undersigned not later than 5.30 p.m. on MONDAY, 11th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

G. CRONIN,
Town Clerk.

Town Hall,
Newry,
Co. Down.

27th July, 1961.

RICHMOND RURAL DISTRICT COUNCIL.

MOUTLON SEWERAGE SCHEME.

TENDERS on a FIXED-PRICE BASIS, are invited for the FOLLOWING WORKS:—

(Contract 1) The Construction of approximately 1,110yd. of 6in. Earthenware Sewer, an Ejector Station, and approximately 175yd. of 4in. Slotted Pipe, Mains and District Water, comprising Balancing and Sedimentation Tank, Percolating Filter, Humus Tanks and Sludge Drying Beds.

(Contract 2) The Supply and Erection of a Duplicate Set of 18 g.p.m. Compressed Air Electors.

Documents may be obtained from the Council's Engineer and Surveyor on payment of £2, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn or the return of all documents.

Tender documents in the envelope provided, must be delivered to the undersigned not later than 12 Noon on MONDAY, the 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

E. H. HODGE,
Clerk of the Council.

Swale House,
Richmond,
Yorks.

(

EXPERIENCED CASHIER/OFFICE MANAGER REQUIRED for Festiniog pumped storage contract. Blaenau Ffestiniog, Merionethshire. Past experience with machine accounting an advantage.—Reply, giving details of past experience, to THE CEMENTATION CO., LTD., Civil Engineering Division, Bentley Works, Doncaster.

ROYAL BOROUGH OF NEW WINDSOR. CLEWER/DEDWORTH SURFACE WATER SEWER.

TENDERS are invited for the CONSTRUCTION of approximately 692 lin. yd. of 24in. and 27in. diameter of SUB-STEAT RESISTING SPUN-CONCRETE PIPE SEWER and other Works.

Particulars obtainable from the Borough Engineer, Kipling Memorial Buildings, Alma Road, Windsor, and Tenders, in the official envelope provided, must reach me Noon on FRIDAY, 25th August, 1961.

G. N. WALDRAM,
Town Clerk.

BOROUGH OF SUTTON AND CHEAM.

CHEAM PARK NURSERY DEPOT EXTENSION.

DEMOLITION, DRAINAGE, CONSTRUCTION OF PRECAST CONCRETE BUILDINGS, RETAINING WALLS (CONCRETE), CONCRETE SLABS AND YARD SURFACING.

The Corporation invites TENDERS for the ABOVE WORKS.

Tender documents and Drawings may be obtained on application to MR. C. NEEDHAM, M.I.C.E., M.I.Mun.E., A.M.I.Struct.E., Borough Engineer and Surveyor, Municipal Offices, Sutton, on payment of a deposit of £2.25, returnable on submission of a bona-fide Tender, cheques payable to Sutton and Cheam Borough Council.

Tenders in the envelope provided, bearing no indication of the name of the tenderer and endorsed "Tender for Cheam Park Depot Extension," must be delivered to the office of the undersigned not later than Noon on FRIDAY, 1st September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

A. PRIESTLEY,
Town Clerk.

Municipal Offices,
Sutton.
August, 1961.

CITY OF STOKE - ON - TRENT.

CITY SURVEYOR'S DEPARTMENT.

SUPPLY OF PLANT.

TENDERS are invited for the SUPPLY of the UNMENTIONED ITEMS OF PLANT:

(a) Two Diesel Rollers, with Equipment, to weigh 10 tons each;

(b) Mobile Sewage Pumps, with capacities between 25,000 and 150,000 gallons per hour, against a maximum head of 100ft., together with Accessories;

Forms of Tender and further particulars may be obtained from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent.

Sealed Tenders, with detailed Specifications and Illustrations, to be delivered, in the envelope to be supplied, to the undersigned, at the Town Hall, Stoke-on-Trent, not later than Noon on THURSDAY, 31st August, 1961.

HARRY TAYLOR,
Town Clerk.

CITY OF LEICESTER.

NARBOROUGH ROAD IMPROVEMENT.

TENDERS are invited for WORKS to EXTEND the DUAL CARRIAGeway for approximately 200yd. by the CONSTRUCTION of a 24ft. CARRIAGeway ALONGSIDE the EXISTING. Works include the following:—

(1) 1,000 sq. yd. of 9in. Concrete with 3in. Hot-rolled Asphalt Surfacing.

(2) 100 sq. yd. of Metrebox, 1ft. thick, with 3in. Dense Tar Surfacing.

(3) Footway, Central Reservation and Drainage Works.

Drawings may be inspected, and Tender documents obtained from the Office of the undersigned on payment of One Guinea, which will be refunded on receipt of a bona-fide tender.

Tenders in the envelope provided endorsed "Tender for Narborough Road Improvement," must be received not later than 4.30 p.m. on MONDAY, 21st August, 1961.

JOHN L. BECKETT, M.I.C.E.

City Surveyor.

Town Hall,
Leicester.

LOFTUS URBAN DISTRICT COUNCIL.

EASINGTON SEWER—EXTENSION.

TENDERS are invited for the CONSTRUCTION of approximately 1,350 lin. yd. of 6in. FOUL WATER SEWER.

Specification, Bills of Quantities and Form of Tender may be obtained from the undersigned upon payment of a deposit of Two Guineas (refunded on receipt of Tender and return of documents).

The Contract Drawings may be inspected at the Surveyor's Office.

Tenders, endorsed "6in. Sewer—Easington," bearing no external mark or indication of the sender, must be delivered to me not later than Noon on THURSDAY, 7th September, 1961.

The Council does not bind itself to accept any Tender.

T. C. ELLISON,
Clerk of the Council.

The Council House,
Loftus,
Saltburn,
Yorks.

A S SISTANT ESTIMATOR REQUIRED at divisional office, to assist in the preparation of tenders for a large variety of civil engineering works. Age 28-35. Applicants should have sound background of at least five years' building or civil engineering estimating, and some practical experience.—Write, giving full details and salary required, to THE CEMENTATION CO., LTD., Civil Engineering Division, Bentley Works, Doncaster.

Documents may be obtained from the Council's Engineer and Surveyor on payment of £2, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn or the return of all documents.

Tender documents in the envelope provided, must be delivered to the undersigned not later than 12 Noon on MONDAY, the 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

E. H. HODGE,
Clerk of the Council.

Swale House,
Richmond,
Yorks.

(

EXPERIENCED CASHIER/OFFICE MANAGER REQUIRED for Festiniog pumped storage contract. Blaenau Ffestiniog, Merionethshire. Past experience with machine accounting an advantage.—Reply, giving details of past experience, to THE CEMENTATION CO., LTD., Civil Engineering Division, Bentley Works, Doncaster.

METROPOLITAN BOROUGH OF GREENWICH.

APPLICATIONS are invited from those willing to TENDER for the ERECTION of 70 HOUSES, 42 MEWS FLATS over Garages and Covered Roadway, and 64 FLATS in an Eight-storey Block, at VANBRUGH PARK, BLACKHEATH, S.E.3.

Plans may be inspected, and other particulars obtained at the office of MESSRS. CHAMBERLIN, POWELL AND BON, Architects, 1 Lamont Road, Passage, Kings Road, London, S.W.10.

Selected applicants (not exceeding 10) will be notified by letter and will be supplied with Bills of Quantities and other documents required to enable them to Tender.

Tenders will be required to sign, or to refuse to sign, a certificate declaring that they are not parties to any scheme or arrangement with other tenderers in respect of the amount of or the adjustment of their Tender. The full wording of the certificate may be obtained from the undersigned.

Applications, addressed to the undersigned, receivable by First Post FRIDAY, 1st September, 1961, must include particulars of recent works executed by applicants.

G. C. TURK,
Town Clerk.
Town Hall,
Greenwich, S.E.10.
July, 1961.

BOROUGH OF PORT TALBOT.

The Corporation invite TENDERS for the ERECTION of THREE REINFORCED CONCRETE STRUCTURES, each consisting of TWO BEACH KIOSKS and SHELTER at the ABERAVON PROMENADE, Port Talbot.

Plans and Specification may be obtained from G. V. GIBBONS, A.M.I.C.E., Borough Engineer, Municipal Buildings, Port Talbot, on payment of a deposit of £2.25, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

The contractor whose Tender is accepted will be required to enter into a bond of security with a bank, insurance company or other form of surety approved by the Corporation.

Tenders, sealed and endorsed "Kiosks/Shelters" to be delivered to the undersigned not later than 12 Noon, 17th SEPTEMBER, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

W. KING DAVIES,
Town Clerk.

BOROUGH OF NEWBURY.

EIGHT BLOCKS OF FOUR FLATS, SCHEME 9.B.— TURPIN/ROAD HOUSES ESTATE.

TENDERS are invited for the CONSTRUCTION of the ABOVE.

Forms of Tender and Bills of Quantities may be obtained from the Borough Surveyor, Municipal Buildings, Newbury, at whose office Plans and General Conditions may be inspected.

Sealed Tenders, endorsed "Tender for Scheme 9.B." must be delivered to the undersigned not later than MONDAY, 28th August, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

LESLIE SOUTHERN,
Town Clerk.

BOROUGH OF POOLE.

BRANSOME DENE CHINE—BEACH HUTS, STAGE I.

TENDERS are invited for the ERECTION of 50 PERMANENT BEACH HUTS in Traditional Brick Construction.

Details may be obtained from the Borough Architect, 2nd August, 1961, Deposit Two Guineas.

Tenders to be returned to the undersigned by First Registered Post on 23rd AUGUST, 1961.

J. G. HILLIER,
Town Clerk.

SUTTON-IN-ASHFIELD URBAN DISTRICT COUNCIL.

ERCTION OF PUBLIC CONVENIENCES.

FIXED-PRICE TENDERS are invited by the above-named Council for the ERECTION at MANSFIELD ROAD, Sutton-in-Ashfield, of PUBLIC CONVENIENCES each of approx. 4,000 cu. ft. air space.

The Drawings may be seen at, and the General Conditions of Contract, Specifications, Bills of Quantities, and Form of Tender may be obtained from the Offices of the Engineer and Surveyor, Council Offices, Forest Lodge, Station Road, Sutton-in-Ashfield, or after the 7th August, 1961, on payment of a deposit of £2.25, in respect of each scheme, which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the forms supplied, and endorsed "Tender—Public Convenience—Mansfield Road, Sutton-in-Ashfield, or Mansfield Road, Skegby, as the case may be, are to be delivered to me at my Office not later than Noon on FRIDAY, the 11th September, 1961.

The Council do not undertake to accept the lowest or any Tender.

WALTER LAUGHTON,
Clerk of the Council.

Barclays Bank Chambers,
Low Street,
Sutton-in-Ashfield.

STOREKEEPER/WAGES CLERK REQUIRED for contract site duties. Some experience an advantage, but not essential, providing applicant is willing to be trained and is prepared to be transferred to other contracts in the U.K.—Apply, stating age and details of previous employment, to THE CEMENTATION CO., LTD., Falls of Cruschan, Loch Awe, by Dalmally, Argyll.

SALES MANAGER.—Applications are invited for this position. The person appointed will be directly responsible for setting up a sales organisation to market the company's products, which include coated glass fibres, asbestos, vinyl asbestos and concrete products. Applicant must have had extensive experience of blast furnace slag from both the technical and sales aspect.—Please write, in confidence, to Box V.4633, "The Contract Journal."

TECHNICAL REPRESENTATIVE REQUIRED, aged 25-35, with wide experience of civil engineering work.—Please apply in first instance by letter, giving details of education and professional experience, and submit the names of two references, to CONSOLIDATED PNEUMATIC TOOL CO., LTD., 471 Chester Road, Manchester, 16.



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 THE CONTRACTOR
 Established 1879

No. 4,284 Vol. CLXXXII August 3, 1961

Editor:
 LAWRENCE McCARTHY

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Publishers

The Contract Journal Co., Ltd.,
 32 Southwark Bridge Road, London, S.E.1.
 Telephone: Waterloo 3411 (7 lines).
 Telegrams: "Seejasir," Sedist, London.

Subscriptions

"The Contract Journal" can be supplied direct from the above offices. Subscriptions, payable in advance: Yearly, £5 4s. (post free); half-yearly, £2 12s. An order form appears on page 648.

Advertisements

Advertisement rates may be obtained on application to R. Binfield, Advertisement Manager.

NO CAUSE FOR PANIC

HALF way through April this column posed the question "will construction demand be restrained?". We said that at times such as these when the construction industry becomes fully loaded the traditional attitude has been one of restraint with the result that the dynamic approach has been entirely lacking in construction. We appealed that the Government instead of reaching for the axe should put on its thinking cap and plan dynamically for the long-term future.

Mr. Selwyn Lloyd in announcing his economic restraints did refer to the need for new machinery for co-ordinating economic planning. But the recipe for the construction industry is all too familiar. Once again the industry is faced with a credit squeeze and restraints. Once again begins the downward slope of the dreary four year cycle half accelerator half brake that has constituted the stagnant pattern since the war. In fact it is 1957 all over again with a 7 per cent. bank rate, credit restrictions and cuts in public investment.

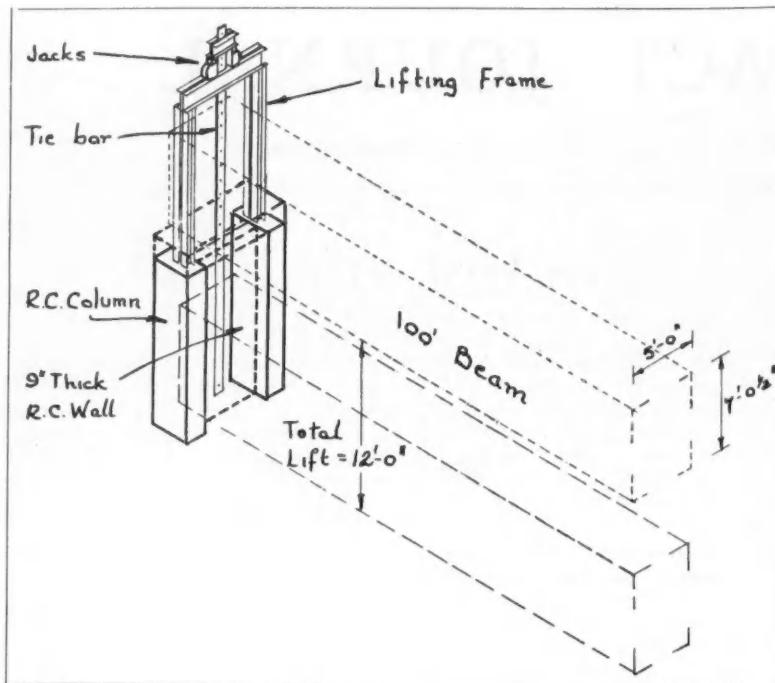
The new measures are bound to cause a reduction in new orders for construction work. Private industrialists and developers will undoubtedly cancel or postpone some of their schemes. Public works will be trimmed although it looks as if essential development such as roads, schools and hospitals will be allowed to continue. Local authority housing is likely to slacken off and mortgages will probably become more difficult to obtain and may become more expensive. Not only will the demand for new houses tend to diminish but private housebuilders may find it more difficult to obtain the necessary finance of these operations. Much of the rise in contractors' bank advances from £70m. to £170m. in the past three years must be due to the additional finance required for the expansion of private enterprise housing.

The restraints introduced in 1957 caused great alarm and despondency in the construction industry. There was a mad scramble for work and prices were depressed out of all proportion to the admittedly severe cuts imposed. Perhaps because of the severity of the measures on that occasion the industry could be excused from overlooking the fact that the recession was bound to be another temporary one and that its long-term future was bright. It might also be excused for overlooking the fact that at the time the cuts were imposed its order books were extremely full thanks to a large influx of industrial work, particularly industrial construction that followed the abolition of licensing.

Today history has repeated itself. Once again the cuts arrive at a time when the order-load is extremely heavy. In the 24 years ending this March an extra £345m. of work has been pumped into the industry. Of this enormous total £227m. is accounted for by private housing and £41m. by local authority housing. Other public works programmes have increased by £85m. Private commercial programmes have increased by £48m. but industrial construction work has fallen by £56m.

All in all therefore the industry has a sufficiently large volume of work on hand to ride out the recession in new orders which is bound to occur over the coming months. There will certainly be some contractors less well placed to weather the storm than others. But if the industry as a whole will use its good sense and judgment and see this new situation as merely a pause in its progress and development then the unhappy and extremely unsettling sequence of events that followed the 1957 cuts can be avoided. Obviously the economic position and restraints must be taken seriously. But that does not mean that there is any cause for panic.

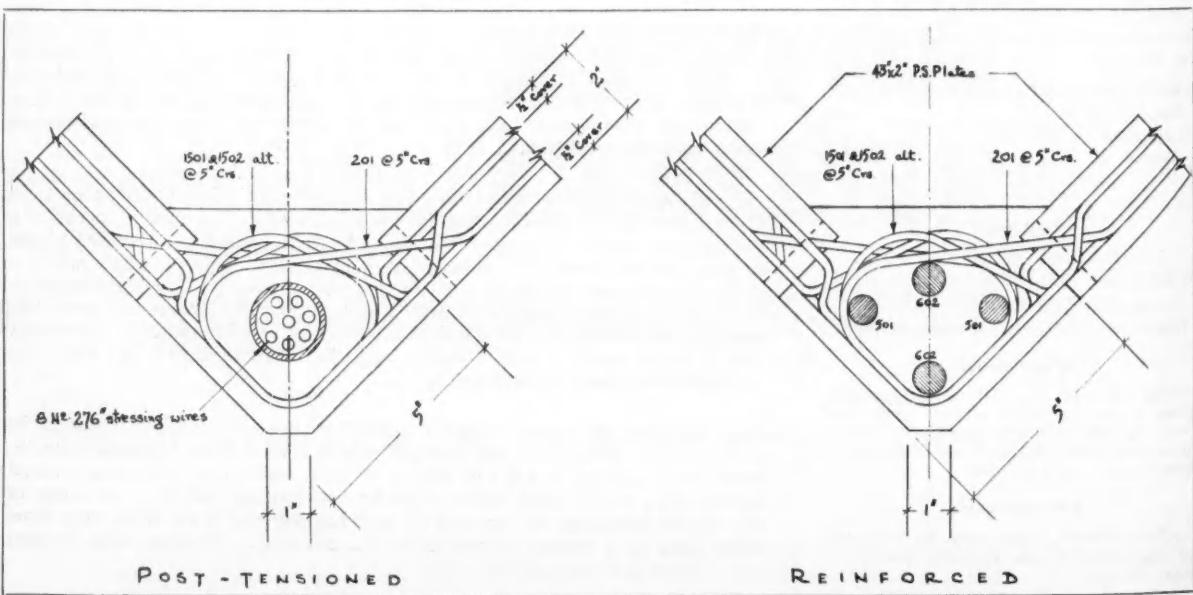
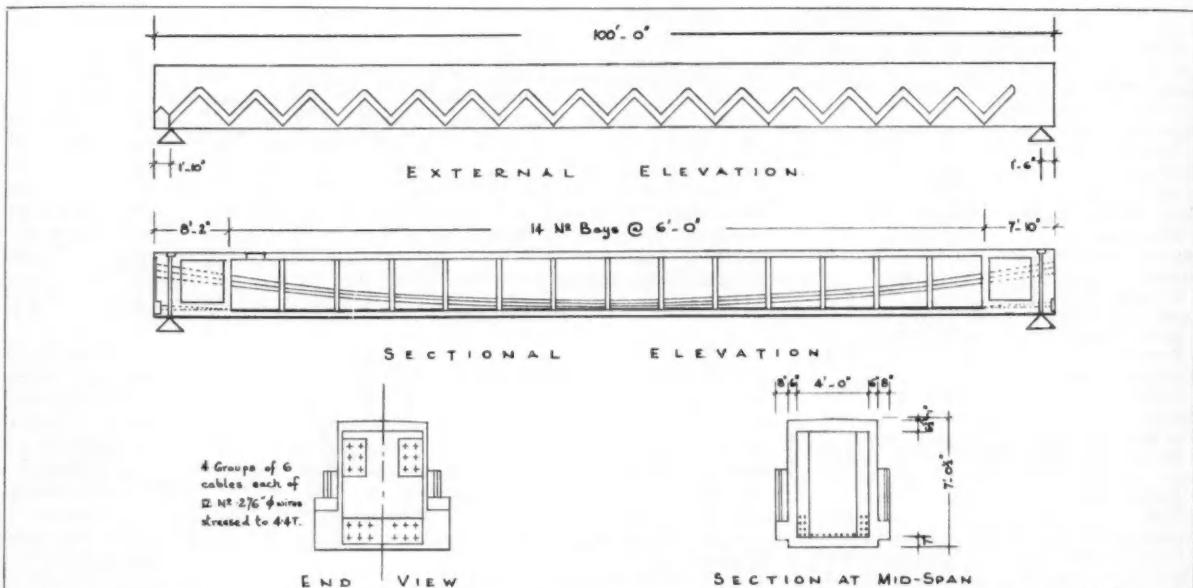
It is also encouraging that at long last the Government seems to be determined to develop a long-term policy with a view to encouraging a greater measure of stability into the economy. It is desirable that these plans should be drawn up in full consultation with the construction industry. It is one of the biggest industries in the country and has suffered more than most from being used as a means of regulating the economy. Perhaps fresh thought and wisdom will find a better way.

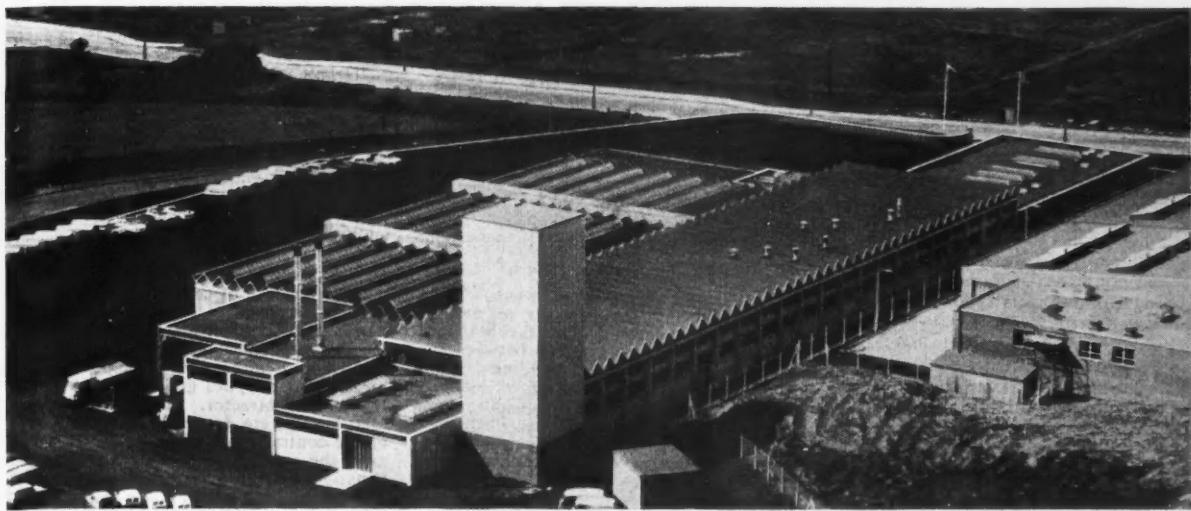


Left:
Method of lifting 100ft. beam

Centre:
100ft. prestressed beam

Bottom:
Precast folded plate roof-sections through valley





Aerial view of completed project

PRECAST CONCRETE FOLDED SLABS FOR ROOF OF SWANSEA BAKERY

AN interesting form of precast concrete roof construction, designed to suit the special requirements of the clients, is a feature of a new bakery built at Fforestfach, Swansea.

The bakery is a single-storey building divided into four main blocks; the bread block, the van-loading block, the office block and the boiler-house annexe (including stores and garages). A flour silo is also attached to the bakery and there are ancillary buildings nearby.

Roof Construction

The special requirements of the clients, United Bakeries, were that the building should be erected quickly; that there should be large areas of uninterrupted floor space in the bakery and van-loading blocks; that there should be smooth surfaces internally which would be easy to keep clean; that the building should be well insulated; that fire risks should be low; that provision should be made for future extensions, and that the maintenance costs generally should be low.

To meet these exacting requirements, a system of construction was evolved using precast concrete folded slabs for the roof. The slabs are made up into two types of V unit. Both types of the unit were precast on the site, lifted into position and jointed to form the "V" roof and the "W" roof.

Each "V" unit consists of two pre-tensioned concrete slabs 2in. thick, 3ft. 7in. wide and 67ft. 8in. long. The slabs were cast in a horizontal position on a stressing bed. The sides of each slab were castellated and had projecting loops of mild steel; pairs of lifting lugs were cast in with the slabs. With the aid of a purpose-made steel truss, the slabs were lifted into a wooden cradle which set them at the required angle of 45 deg. to form a "V" shape. Mild steel bars were then threaded through the projecting and interlocking loops at the base of the "V," and the valley joint was cast. At each end of the valley, a 3in. diameter rainwater pipe of pitch fibre was cast in; galvanised ferrules for the fixing of heating and lighting conduits were also cast into the valley at 50in. centres so that services could be fixed in any position.

The "V" units—each of which weighed about 6½ tons—were next lifted by mobile crane on to a bogie and taken into the building, where they were lifted into position onto the upstand parts of edge beams. The latter were designed to follow the 45 deg. corrugation lines of the slabs. Hollow rubber strips provided a flexible support for the slabs as well as a seal between slabs and edge beams. Finally, mild steel bars were threaded through the

projecting loops at the ridges, in the same way as the valleys, and the joints were concreted.

The "W" roof had the two outer wings of the W shortened so that a roof light of patent glazing could be fixed between each unit. It was cast and erected in exactly the same way as the V slabs except that the valley joints were post-tensioned.

These two types of roofing unit can be used for spans of up to 100ft. They were manufactured quickly (one unit per day was being made on the site) and therefore economically. The Department of Scientific and Industrial Research (Fire Research Station) expressed the view that for this roof the resistance time to collapse in the event of fire would be about one hour. The fair-faced soffit to the concrete slabs obviated the use of a false ceiling. The plates are watertight, the valleys forming the rainwater gutters. No expansion joints were required; the roof folds or unfolds according to temperature change and the joints are designed to allow for this.

Bakery Block

The block consists of a hall 265ft. long, 65ft. wide and 18ft. 6in. high roofed with

"V" units. There are no internal columns. Precast concrete columns placed at 12ft. centres and cantilevered from reinforced concrete foundations support the edge beams; rainwater pipes were cast in with the columns.

Infilling wall panels are of precast concrete with an exposed aggregate finish; these are lined internally with "Siporex" lightweight concrete slabs for insulation purposes, secured to the outer panels with non-ferrous ties. Windows have precast concrete sills and aluminium patent glazing bars.

Van-loading Block

This block is at the rear of the bakery and has an uninterrupted floor space measuring 100ft. by 200ft. The roof is formed of "W" units in three spans, supported internally by two post-tensioned concrete box beams 5ft. by 7ft. in section and 100ft. long. The beams were cast on at ground level and raised into position by hydraulic jacks with the aid of a temporary steel structure; each beam weighs about 120 tons.

The supporting columns were cast in situ.
(Concluded on page 586)



Bakery block

GROWTH OF NOMINATION

Increasing Friction between Main and Sub-contractors

ADDRESSING a meeting of the Cast Stone and Concrete Federation held in London recently, Mr. R. W. Porter, M.B.E., director, Eastern Federation of Building Trades Employers, said an increasing proportion of the work in building contracts was being carried out by sub-contractors nominated by the architect, or with materials supplied by nominated firms. This might be due to increased specialisation, but on occasion one wondered whether a multiplicity of P.C. sums might indicate that a scheme was not fully prepared at the outset, or that the architect concerned stood in need of a little specialist advice.

"It is certainly an unusual situation where a third person nominates the party to a contract, without having any contractual interest in it," Mr. Porter continued. "Thus, under clause 21 of the R.I.B.A. Standard Form of Contract, the architect makes a nomination, but thereafter the relationship is one entirely between the main contractor and the nominated sub-contractor.

"From the main contractor's angle there are only two saving points. Firstly, if he has a reasonable objection to the nominated sub-contractor he can make this known to the architect and, secondly, he will not be required to work with a nominated sub-contractor who will not enter into a sub-contract covering the main points of their relationships.

"One can discern, however, at the present time some increasing friction between main contractors and sub-contractors. This may well be due to the

situation under firm-price tendering where the main contractor is responsible on time and price, both being very vital factors. Nominated sub-contractors may often be unwilling to give a period for the execution of the work or to give a firm price as the main contractor is required to do.

Use of Standard Form

"Experience shows that some of the present difficulties can largely be met by the more extensive use of the Standard Form of Sub-Contract agreed between the National Federation of Building Trades Employers and the Federation of Associations of Specialists and Sub-Contractors. This form sets out conditions which provide the complete link with the main contract and generally make the nominated sub-contractor liable in respect of his own work to the same extent as the main contractor is responsible for his.

"The nominated sub-contractor is very well safeguarded in regard to payment which must be made within 14 days of the receipt by the main contractor of the architect's certificate, irrespective of the fate the main contractor may meet in presenting it for payment.

"There are also provisions for payments direct, special interim certificates, and accelerated final payments on the giving of an indemnity. Variations notified by the main contractor or passed on by him from the architect are priced at scheduled rates or, if there is no specific provision in the sub-contract, on the basis set out under clause 9 of the main contract.

"It is provided that work shall be commenced within seven days notice in writing from the main contractor, with completion

as provided for under Part 11 of the Appendix to the contract if this is, in fact, completed at the outset.

"Delays and extensions of time are adequately provided for and the defects provision is similar to that set out under clause 12 of the main contract.

"The nominated sub-contractor is responsible for insurance under employers' and public liability risks and also for the insurance of plant and tools, fire risk on new works contracts remaining the responsibility of the main contractor.

Nominated Suppliers

"The position of the nominated supplier is in many respects quite different. The nominated sub-contractor executes work on site, generally supplying labour and materials. The nominated supplier on the other hand, supplies goods to be fixed by the main contractor. In the former case relationships are determined by the nature of the contract entered into. In the latter case the conditions of sale govern the situation subject to the provisions of the Sale of Goods Act, 1893.

"It is obviously important that nominated suppliers should quote on the terms set out under clause 22 of the R.I.B.A. Standard Form of Contract, viz. 5 per cent. cash discount for payment within 30 days of the end of the month of delivery. Where a differing quotation is received the main contractor should go back to the architect for instruction.

"In the last few years the introduction of the nominated suppliers' form of tender has helped to remedy certain unfortunate difficulties arising where nominated suppliers impose conditions at variance with those in the Standard Form of Contract.

"Unfortunately this form has not been as widely used as its value merits and if the main contractor is not persistent on this point, he has often been placed in a relatively disadvantageous position."

(Concluded from page 585)

To allow for future extension, the block has a temporary wall of asbestos sheets supported on precast concrete purlins spanning between columns.

Office Block

The office block is placed to one side of the bakery. The column and foundation construction is similar to the other blocks, but the roof was formed of purpose-made reinforced concrete trough units which span between precast concrete beams, the units being covered with polystyrene slabs. External walls are of 11in. cavity brickwork. Windows have aluminium sections and precast concrete sills. All partitions in this

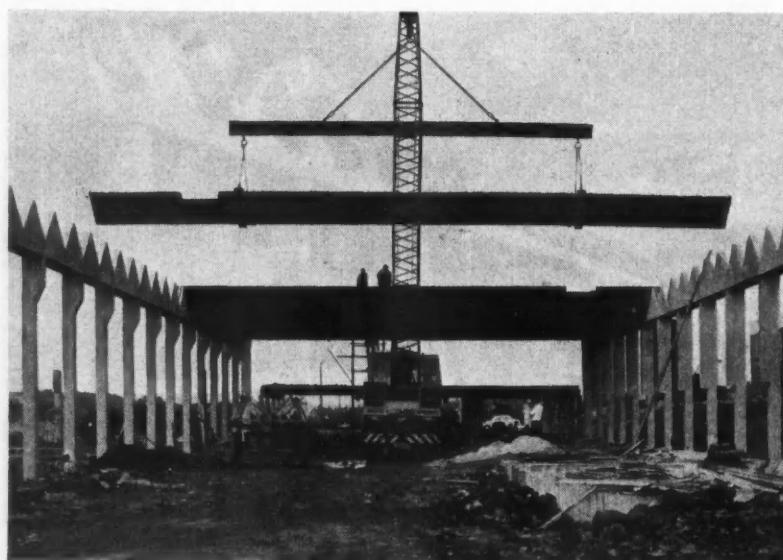
block were constructed of "Siporex" slabs extending 9ft. from floor to ceiling.

Ancillary Buildings

These were constructed on a frame of in-situ reinforced concrete columns and precast prestressed concrete beams. The wall construction is similar to that of the bakery and is again insulated internally with "Siporex" slabs.

Consultants and Contractors

The architect was H. Stanley Smith, A.R.I.B.A. (architect in charge R. H. S. Smith, B.A., A.R.I.B.A.); the structural consultant was Felix Adler, B.Sc., Dipl.C.E., A.M.I.Struct.E. (engineer in charge—E. W. Hirschmann Dpl.Eng., A.M.I.C.E.). The contractors were Richard Costain (Construction), Ltd.



Lifting complete roof unit into position

D.S.I.R. BUILDING AIDS HARBOUR DESIGN

A new wave basin enclosure to aid the model study of harbour design and the erosion of beaches has been built at the Hydraulics Research Station of the D.S.I.R. at Wallingford, Berks.

Measuring 243ft. long, the enclosure houses two wave basins. It is constructed of laminated soft-wood frames clad with cedar to a Swedish system which provides good structural strength without the need of columns to support the roof, it being essential for the function of the basins that they be left unobstructed. The enclosure incorporates two large wooden spans of 114ft. and 96ft. in length, and the two ends of the building are completely glazed. A wave-making machine achieves the full-scale effects in the basins.

Some 2,500yd. of mineral insulated cables have been installed in the building; twin core to wire the 300-W lamps, of which there are over 100, and three-core for the 24 15-A watertight sockets, of which there are 12 in each basin. The cables were made and supplied by British Insulated Callender's Cables, Ltd.

Architect of the enclosure was O. P. Carver, A.R.I.B.A., senior architect at the Ministry of Works, which was responsible for the design and erection of the building for the D.S.I.R. The electrical contractor was R. McEwan and Co. (Woking), Ltd., Woking, Surrey.

GAS PIPELINE FROM GRANGEMOUTH TO EDINBURGH

The Scottish Gas Board have announced plans for connecting Granton gas works, Edinburgh, with Grangemouth oil refinery for the transmission of refinery gas.

The pipeline will be 21 miles long and a further 23 miles will be laid between Granton and Armadale and Falkirk to link up with the supergrid. At Granton the gas will be refined and mixed with the town gas supply.

DONCASTER MOTORWAY OPENED

FIFTEEN miles in length, the Doncaster Motorway, which has cost about £6m. and will eventually connect with the London-Yorkshire Motorway, was opened last Monday by the Minister of Transport.

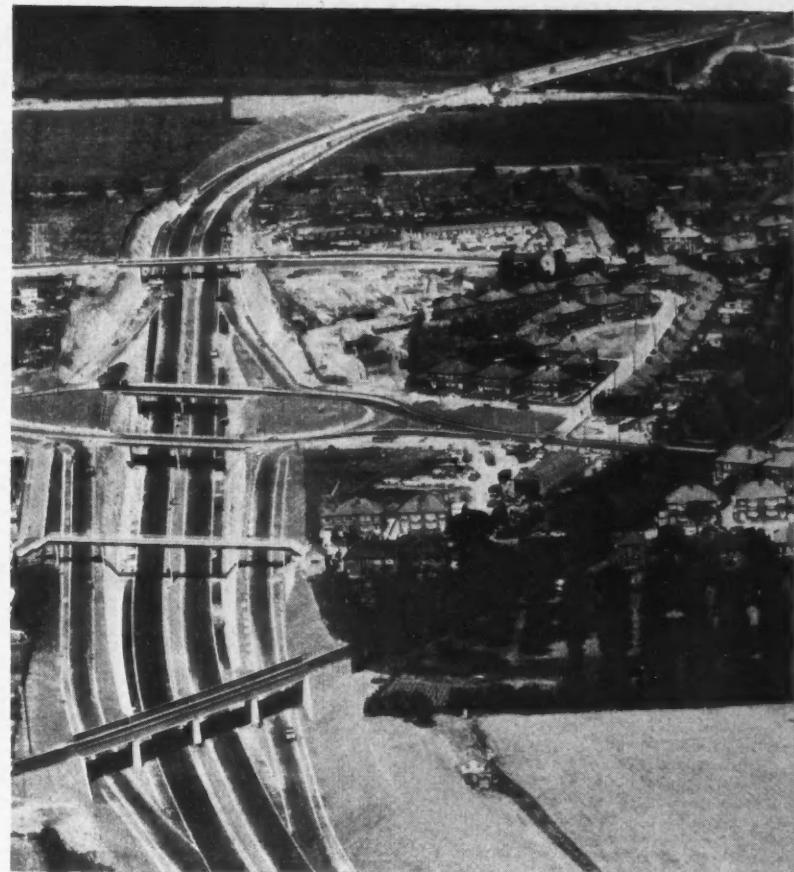
The motorway, descriptions of which have appeared in *The Contract Journal* of July 20, 1961, and July 7, 1960, completes a 27-mile long westward diversion of the Great North Road, A.1, from Markham Moor, south of Retford, to Redhouse, north of Doncaster. This large diversion incorporates dual carriageway improvements of existing roads and by-passes East Retford, Bawtry, Doncaster, and Blyth, where a 4-mile stretch of modern three-lane single carriageway road from Checkerhouse to the Blyth by-pass will later be widened to provide two carriageways throughout.

Engineering Difficulties

As the motorway traverses a part of Nottinghamshire and South Yorkshire almost completely undermined by coal workings subsidence of depths varying up to 14ft. is anticipated during the next 20 years, and to minimise the effect of this the accent has been on flexible construction. All bridges have been provided with readily accessible jacking points so that the level of any bridge deck may be adjusted without too much difficulty when this becomes necessary.

Much of the 3,000,000 cu. yd. of rock which had to be removed had to be blasted loose prior to being dug out by the largest mechanical shovel so far used in this country for road construction.

While most of the cut material was



Doncaster By-pass Motorway

useful for filling in embankments, the rock, which was mainly limestone, could not be utilised for facing bridges. The local limestone weathers badly and an alternative way had to be found to break up the monotony of large flat concrete surfaces. This was achieved by facing the concrete shutters with plastic moulds to give the finished concrete a rock-like face.

More than 30 bridges have been constructed, and these incorporate six main types.

In addition to the single level roundabout junctions at its extremities, the motorway is connected to the Doncaster-Barnsley Road (A.635) at Marr, and to the Doncaster-Rotherham Road (A.630) at Warmsworth. Each connection takes the form of a two-level intersection with a

roundabout being formed on the all-purpose road and four slip roads rising or descending, as the case demands, to the motorway.

Various other roads passing over or under the motorway have had to be regraded to new alignment and level, and in all some 10 miles of side roads have been reconstructed.

Don Bridge

The Don bridge carries the motorway over the River Don near the old village of Sprotborough, four miles west of Doncaster. Steep, wooded banks rise to about 100ft. above the water level. With an overall length of 760ft. the bridge is a seven-span dual structure. The 180ft. span

(Concluded on page 592)



Don Bridge

A LAWYER CONSIDERS . . .

Some Points on Fluctuations — Adequate Supervision

WITH the present more unsettled economic outlook the possibility of a return to tendering on fluctuations instead of a firm price has increased and in any case many contracts are still operated on, and being let on, a fluctuations basis. Some points on the interpretation of the R.I.B.A. provisions in regard to wages fluctuations often cause controversy and there may also be one or two misconceptions about the treatment of the October wage increase for fluctuations purposes.

Non-Productive Time

One point concerns the amount of labour cost fluctuation that can be recovered and some surveyors try to maintain that the so-called non-productive number of labour hours should not count for calculating fluctuations. However, like all contractual problems on the R.I.B.A. Form the only way to get an answer is to see what the contract says—and hope that that it says it clearly.

By Clause 25A it is provided that the contract sum shall be deemed to have been calculated as set out in the clause; as regards the labour content of that sum sub-clause (1)(a) provides that the prices in the Bills "are based upon the rates of wages and other emoluments and expenses . . . payable by the Contractor to work-people engaged upon or in connection with the works in accordance with the rules or decisions of the National Joint Council for the Building Industry." Sub-paragraph (b) then provides that "If the said rates of wages and other emoluments and expenses . . . shall be increased or decreased by reason of any alteration in the said rules or decisions made after the said date of tender" the net increase or decrease is to be recoverable.

There are certain points worth noting about this clause. First it says that the contract sum shall be deemed to have been calculated in the ways set out in the clause; as regards the labour content of the sum the Bill rates are therefore deemed to have been calculated on N.J.C. rates of wages; this may of course not be true but both parties would be stopped by the wording of the clause they have agreed to from asserting any other than N.J.C. rates of wages for the purposes of Clause 25A. Secondly, the expression used is "rates of wages" and not "wages" and so any question of whether the wages were paid when for instance overtime had not been authorised under the appropriate working rule would not suffice to found an argument that wages paid for such unauthorised overtime were not rates of wages paid in accordance with the N.J.C. rules; even for unauthorised overtime the contractor, so far as the writer understands the position, must pay the appropriate N.J.C. rates of wages. Thirdly, the clause is silent on the number of hours on which any increases can be claimed; nor is there any other provision in the contract which limits the number of hours which a contractor can work. The contractor's obligation is to carry out the work shown on the drawings and described in the bills in accordance with the contract conditions; of course those contract conditions give wide power to the architect to issue instructions and directions but while that power may be wide there is no specific right to order the contractor to work only at certain hours. Moreover, if an architect did try to interpret his powers so as to attempt to dictate hours of work he would run the risk of involving his client in many claims for extra cost as a result of so instructing; only an unwise or inexperienced architect would try to interfere.

Bearing these points in mind they should, it is suggested, help to provide the answer to any surveyor who tried to allege

that the only hours for which fluctuations were payable were those of the normal plain-time working week; there is no contractual obligation to work only that week and nothing in Clause 25A to stop the claim for fluctuations on the hours actually worked.

Argument Against

The only argument against this view which appears to have some force is as follows. Assume that the contractor entirely by his own fault is behind time and unless he works overtime will find himself liable for heavy liquidated damages. He calculates that by working overtime he can probably finish on time and the extra cost in wages, etc., by so doing will be less than paying the liquidated damages. Is it right in those circumstances that on all the hours worked he should be able to claim any fluctuations due, being the difference between the N.J.C. rates of wages for those hours as at the date of tender and the rates of wages for those hours at the time they are worked? This argument appears, however, to be unsupported by the contract whatever support on moral grounds it might have. No doubt in practice in such circumstances the contractor in an effort to keep good will would omit some at least of the overtime, or so-called non-productive, hours from his claim for fluctuations.

New Wage Increase

It is one hopes clear that, from the date of the announcement of the new wage increase in October next, contractors tendering on R.I.B.A. conditions with fluctuations must include for such increase in their tenders. Only on contracts where the date of tender was before that announcement can any question of that increase being recoverable arise.

Assuming that there will have arisen a proper claim for fluctuations due to the October wage increase it may be that some surveyors will try to argue that the amount of fluctuation due is not 6d. because some proportion of that sum is in fact compensation for the reduction in hours; the actual fluctuation due is therefore something nearer 3d. This argument may be tackled on two grounds. First, it ignores the fact that the fluctuation clause refers to rates of wages and whatever the reason for fixing the new top rate at 5s. 6d. (and overtime at multiples of that sum) such reason is quite beside the point; 5s. 6d. is the N.J.C. rate of wage for plain-time with multiples of that sum for overtime. Second it assumes, without contractual backing as has been argued above, that the only hours for which fluctuations are payable are the normal working week; if indeed the contract did lay down that the contractor would only get fluctuations on wages for a normal working week then there might be colour for the argument that the fluctuation is really the difference between 44 times 5s. and 42 times 5s. 6d.—but unfortunately for that argument the contract says nothing of the sort.

Fluctuations when Contractor in Default

It is sometimes argued, again without much reference to the contract, that if the contractor is in default, for example is running late and has no possible right to any extension of time, then he is no longer entitled to any fluctuations on work done after the contractual completion date has passed. The simplest answer to this argument is that the contract does not say this. If a contract is running late and goes beyond the agreed completion date the remedy for that breach is payment of the damages caused to the building owner by that breach; it is not for the building owner arbitrarily to assess his

own damages by in effect refusing to honour a clause, the fluctuation clause, in the contract. One breach of contract is not usually remedied by another breach.

Adequate Supervision

IN the case discussed in an article in *The Contract Journal* for July 20, 1961, the basic reason why the employers were held liable to their employee was because they failed to provide proper supervision for the particular job on which the accident occurred. A case so to speak on the other side of the line has now been reported, *Maloney v A. Cameron, Ltd.* [(1961) 2 All E.R. 934].

M and two other experienced painters were painting the roof of a railway station. For this job they used three trestles about 9ft. high, with heavy deal boards across them which were moved around as necessary for the work. These trestles and boards amounted to a "scaffold" as defined in the Building Safety Regulations. The painters moved this scaffold to a new position and while trying to set the boards in place M fell from a trestle and was injured. There was a foreman on the site who supervised generally and he had seen the method of moving the trestles and was apparently satisfied with it. M himself admitted that he did not need supervision. He alleged, however, breaches by his employers of three of the Safety Regulations; contrary to Regulation 6 they had provided no "immediate supervision" of the erection of the scaffold; contrary to Regulation 9 they had provided no maintenance and support of the scaffold; and contrary to Regulation 12 the trestles were not provided with check bars "where necessary to ensure stability."

M's claim failed and the Court of Appeal dismissed his appeal. Regulation 9 only applied to scaffolds when they were complete; it could not apply to a scaffold in the course of being erected. Regulation 12 probably applied to the scaffold but since there was no evidence that check-bars were necessary to ensure stability the failure to provide them did not in this case amount to a breach of the Regulation. Regulation 6 did not apply because although "immediate supervision" of a competent person was necessary for the erection or alteration of a scaffold the proper extent of that supervision was one of degree bearing in mind the type of structure being built, the work being done and the difficulties and dangers involved. The word "immediate" in this context referred to the responsibility and did not mean that every act must in all cases be closely supervised—if it were interpreted otherwise the Regulation simply would not be practicable. In this case the workmen were competent and the degree of danger and difficulty was small. In the circumstances therefore the Courts did not feel that the employers had been in breach of Regulation 6 either.

INTERNATIONAL BUILDING CENTRES

The annual meeting of the International Permanent Conference of Building Centres was recently held in Vienna. Membership of the Conference now consists of representatives from Building Centres all over Europe and from other parts of the world.

In view of the London Building Centre's work as pioneer of the Building Centre movement generally, and services rendered by its Director who was one of the founders, Mr. F. R. Yerbury was elected permanent honorary president of the Conference.

August 3 1961

THE CONTRACT JOURNAL

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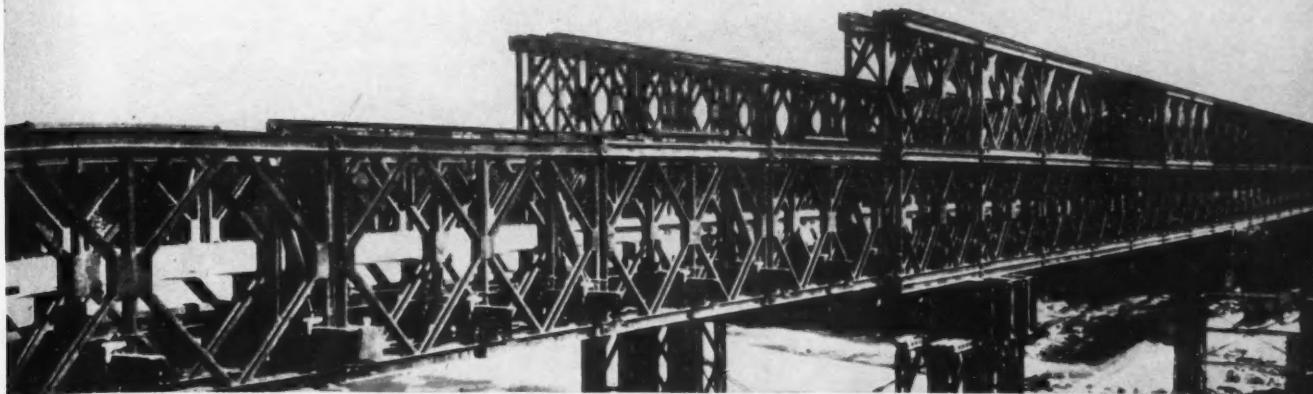
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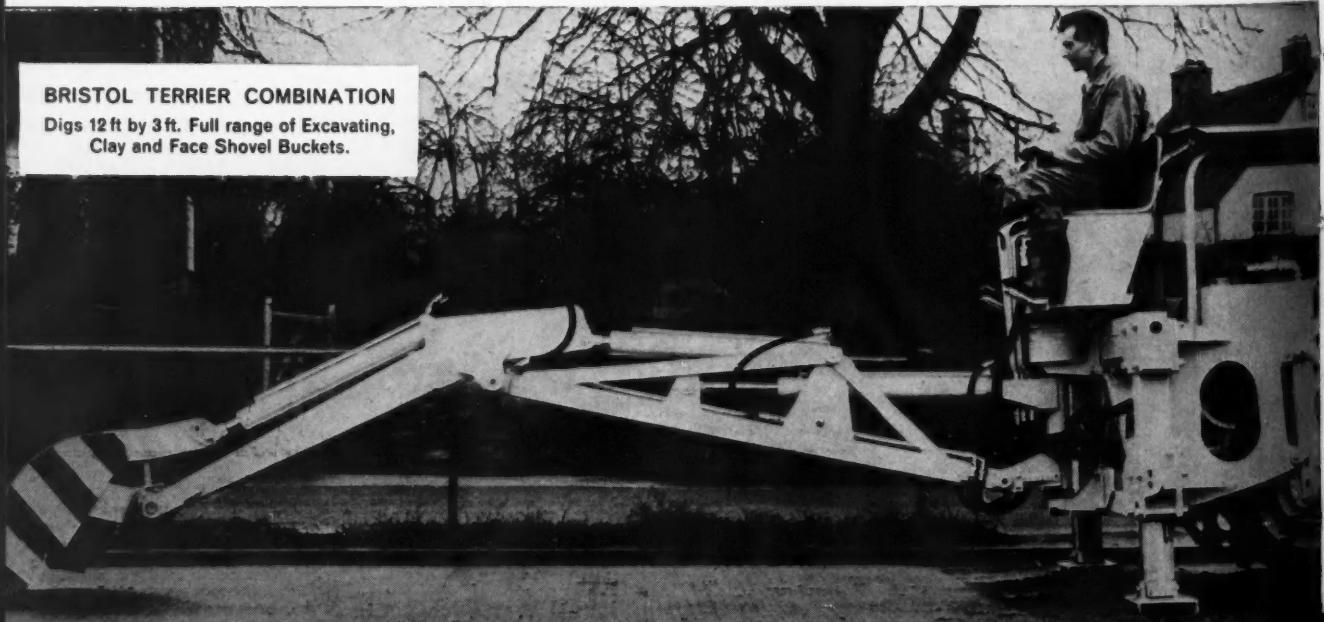
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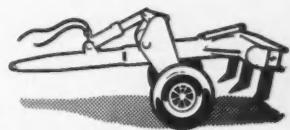
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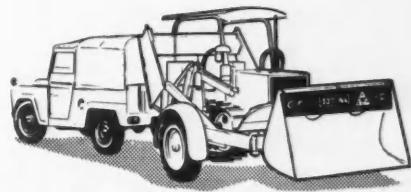
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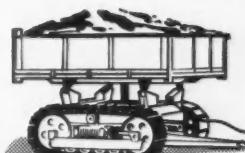
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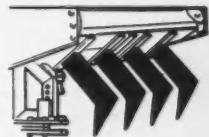
Hydraulic Drawn Ripper



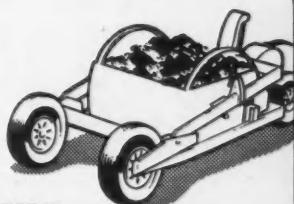
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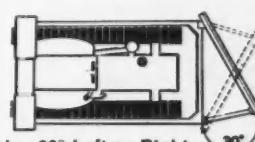
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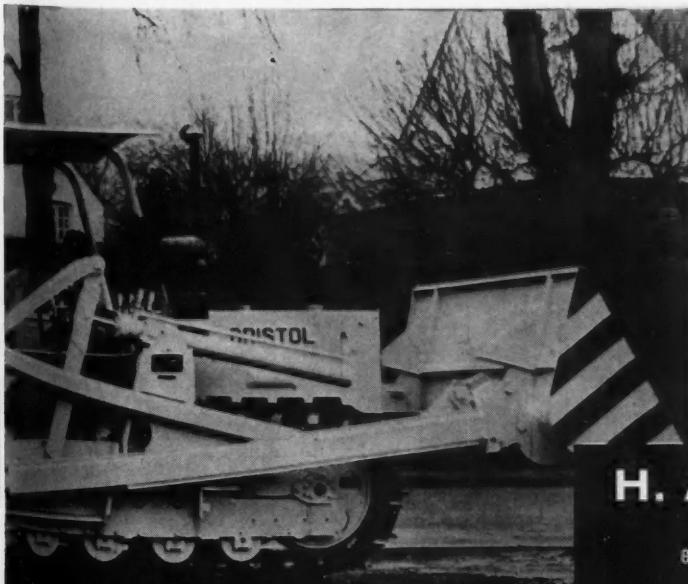
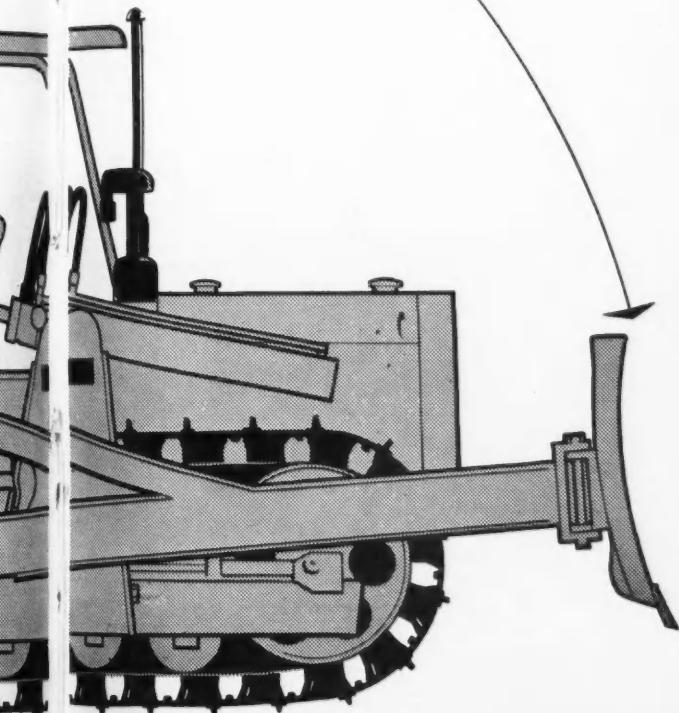
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TEAMWORK VITAL FEATURE OF CARDIFF NEWSPAPER OFFICES

BECAUSE of the need to occupy the new building in phases, while continuing to produce daily newspapers, timing of operations and close co-operation between all involved were features in the erection of Thomson House, Cardiff, recently opened for Thomson Newspapers, Ltd.

General Design

The general design of the building, which is occupied by the *Western Mail* and *South Wales Echo*, was dictated by the position of the machine room, which has been situated as a spinal column in the centre of the building. This hall is 110ft. in length, 40ft. high, extending from the basement to the second floor, and 48ft. wide with no intermediate columns. Concrete foundations for the presses are 6ft. thick.

To provide easy access to the main entrance, Thomson House has been set back from Havelock Street, which with Park Street forms the east and north boundaries of the site. A forecourt in front of the entrance provides parking space for visitors' cars, and is laid out in patterns of stones and cobbles.

An important feature of this open space is that it allows a large amount of natural light into the entrance hall, the central feature of which is a wide staircase leading to the editorial offices on the first floor.

Extending along the south side of the building, the main editorial office is 110ft. long and 32ft. wide, with windows on both sides, insulated from the noise of the machine room by an open area. This floor has been designed with communication as a major objective, and all offices are situated around and leading into the main reporters' and sub-editors' room.

Immediately below the editorial offices is the composing room, allowing copy prepared above to make a direct vertical descent. Also insulated from the noise of the machine room, the composing room is lit by roof lights and a line of south windows.

External Features

Externally, the main feature of the steel-framed building is a canopy on the Havelock Street frontage formed by an extension of the first and second floors, which are cantilevered forward, and this gives uninterrupted shelter along the length of the entrance hall.

Another major feature consists of a mosaic mural, 36ft. high and 15ft. wide, which forms the corner facade of the entrance frontage. External cladding is a blend of Portland stone, curtain walling and facing bricks.

On the Park Street side, the two upper floors are also set in a stone framework, but with less projection forward. Curtain walling panels are varied in colour.

For this reason, and because of the proximity of the adjoining roads, it was decided to drive a sheet pile cofferdam around the perimeter of the basement, which involved the driving of sheet piles 28ft. in length. These were placed permanently in position and incorporated into the walls of the basement. An internal membrane of asphalt was applied to the reinforced concrete slab and walls of the basement to prevent water seeping through.

While the basement was under construction, excavation of about 11,500 cu. yd. was carried out elsewhere on the site, and



Thomson House, showing mosaic and entrance forecourt

With the starting of work, a number of problems arose in connection with the nature of the ground, which not only had a high water level but was dotted with the remains of previous basements and foundations.

A total of 630 bored piles were sunk, after test piles had been driven at specified points and test loadings carried out. Investigations carried out in connection with the excavation of the 140ft.-long by 126ft.-wide basement revealed that the water table level was well above that of the reinforced concrete slab and pile caps of the basement.

pile caps and beams were provided at the eastern end.

Day-to-day Programme

Another problem for the contractors was the necessity to adhere to a rigid day-to-day programme, with little space for storage or stacking of large quantities of materials. Nothing could therefore be delivered until it was ready to be incorporated in the building, and in this way steel members for the frame were brought to the site in their proper order and erected immediately.

Precise programming of this nature could only be achieved through close co-operation between all departments, and progress meetings were attended fortnightly by representatives of the architects, consulting engineers and contractors.

When the steel frame had been partly completed, the members were encased in concrete, and construction of the in-situ floor and roof slabs began. For these operations a concrete pump was provided, and a total of about 7,500 cu. yd. of concrete was pumped to all parts of the site as necessary. Steel reinforcing bars used in the building totalled about 130 tons.

Erection was speeded as much as possible by beginning work on the eastern end of the building while construction of the basement was still taking place. Thus external cladding and roof asphalting could continue at the eastern end well ahead of the rest of the building, allowing work inside to begin much earlier than would otherwise have been possible.

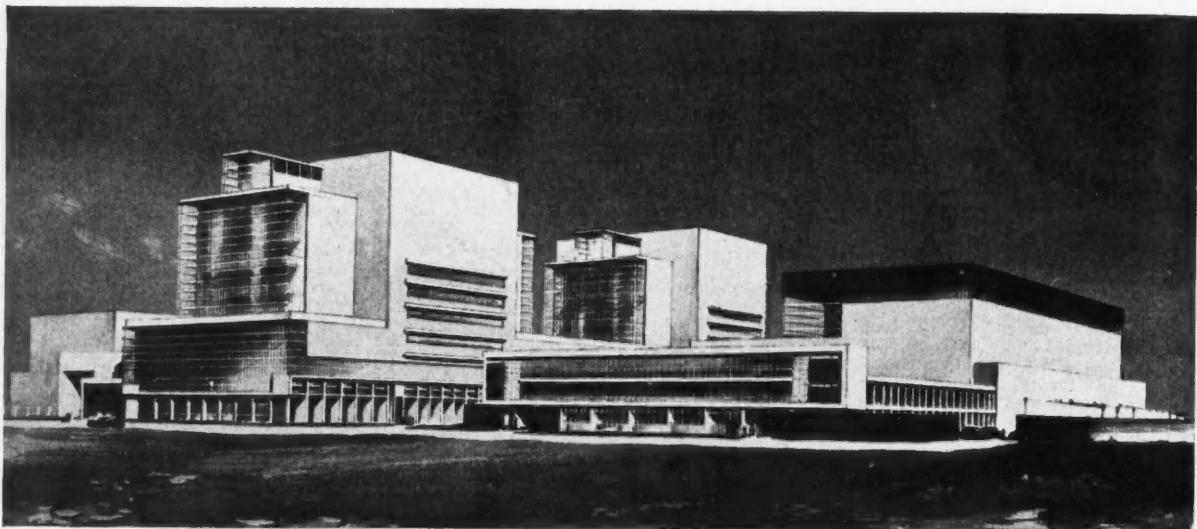
Access panels were left in internal and external walls for the installation of the newspaper production plant, and this was positioned in an agreed sequence. Once the parts were in position, the access openings were built up.

Contractors and Consultants

The architects for Thomson House were Ellis, Clarke and Gallaugh, 37 Soho Square, London, W.1, and the quantity surveyors were E. R. Budgen and Partners, 59 Park Place, Cardiff. John Morgan (Builders), Ltd., 14 Cathedral Road, Cardiff, were the main contractors.



Entrance hall



This is how the station will look when it is completed in 1965

A YEAR OF PROGRESS ON DUNGENESS NUCLEAR POWER STATION

Goliath Crane Ready in Two Months

CONSTRUCTION has now reached above ground level on the two reactors of the Dungeness Nuclear Power Station, where work has now been in progress for almost a year. The centre section of the giant Goliath crane, which will lift and place the 200-ton pressure vessel segments, is now being assembled

and this will be in commission within two months.

The two reactor buildings are identical, each being 320ft. long and 155ft. wide, with an excavation depth of 24ft. and a finished height of 160ft. On number 1, excavation was completed some considerable time ago, some 40,000 cu. yd. of material being removed. The main floor

raft, which is 8ft. thick, has been cast, and on this in a central position is a concrete plinth which will eventually support the spherical steel pressure vessel. At each end of the reactor, the mass foundations for the two boiler supports have been completed.

The biological shield, which will surround the pressure vessel, has reached approximately half its full height of 60ft. It is constructed of high density concrete which varies in thickness from 5ft. 6in. to 6ft. The secondary shielding walls have advanced above ground level and backfilling is in progress.

Dewatering

The site is remarkable for its freedom from water. This has been accomplished by driving steel sheet piling around the perimeter of the buildings and dewatering by sinking deep wells and installing drainage pumps. These pumps will be in day and night operation until all the buildings are above ground level.

In accordance with the construction programme, number 2 reactor is less advanced than number 1. The floor raft has been laid and the boiler support mass foundations are finished. The pressure vessel plinth is being cast and the biological shield is about to be started. As on number 1, the secondary shielding walls are above ground level.

On the turbine house, excavation involved the removal of 35,000 cu. yd. of spoil. This building will be 430ft. long, 235ft. wide and will have a finished height of 85ft. The basement floor is half completed and work on the outer retaining walls is proceeding. Of the four foundations for the main turbo-alternators, two are up to basement floor level and the other two are under construction.

Inlet and outlet culverts associated with the cooling water system are 50 per cent. complete. Structural steelwork should commence towards the end of the year.

Pumphouse

The power station will have an open-type circular pumphouse connected to an intake point in the English Channel by a single 15ft. outside diameter tunnel. The distance from the pumphouse to the point of intake



View of progress on the two reactors, No. 1 is in the background

is approximately 1,500ft. Approximately 20m. gallons of water per hour will be required for condenser cooling when the station is in operation.

Work has started on the pumphouse, the final excavation depth of approximately 55ft. having been reached. Half of the floor raft in the bottom of the pumphouse has been laid and the retaining wall structure is being built. The circulating water intake shaft is at its final depth of just over 80ft., and it is anticipated that the driving of the inlet tunnel will commence in six weeks' time.

Associated with the discharge of cooling water back to the sea is a siphon recovery chamber. It will be an open circular structure, some 40ft. deep, with the outlet shaft extending a further 40ft. below. Work has started on the main excavation.

In the construction area the fabrication jigs and housings for the ring segments of the reactor pressure vessels are complete. Small plate is being received on site and the welding of the top dome of No. 1 vessel has commenced. The general thickness of the vessels is 4in. increasing to 4½in. at support points.

Work is in progress on two of the four boilers to be fabricated on site. The bottom domes of these vessels are virtually complete and plate is arriving on site for the third boiler. Four boilers are being manufactured on the north-east coast and will be floated down—as complete but empty shells—at a later date.

In the reactor pressure vessel fabrication area, the 40-ton Goliath junior, used to lift vessel plates, has been commissioned.

Contractors

Some 1,000 people are presently working on site, most of these being engaged on the civil engineering side by Sir Robert McAlpine and Sons, Ltd. The labour force will be built up to a peak of 1,900 in the early part of 1963.

The station has been designed and is being built for the Central Electricity Generating Board by The Nuclear Power Group, Radbroke Hall, Knutsford, Cheshire. The Group combines the resources of the following companies: Associated Electrical Industries, Ltd.; Clarke, Chapman and Co., Ltd.; Alex. Findlay and Co., Ltd.; Head, Wrighton and Co., Ltd.; Sir Robert McAlpine and Sons, Ltd.; C. A. Parsons and Co., Ltd.; A. Reyrolle and Co., Ltd.; Strachan and Henshaw, Ltd.; John Thompson, Ltd.; and Whessoe, Ltd.

Basically, the design of the Dungeness

reactors follows that of earlier stations but incorporates the latest developments in reactor and heat transfer technology. They are of the gas-cooled, graphite moderated type and use as fuel natural uranium bars clad in magnox sheaths.

The station is designed for a net electrical output of 550-MW and has two identical reactor units of approximately 840-MW thermal output each, a turbine house and the usual ancillaries.

Each reactor will have a prism-shaped graphite core, made up of large octagonal and small square bricks, enclosed in a spherical steel pressure vessel. The vessel is surrounded by a primary biological shield of concrete through which pass the gas ducts to four boilers. Dry carbon dioxide at a pressure of 283 p.s.i.a. is circulated between the reactor core and the boilers by four blowers driven by back pressure steam turbines. Each reactor unit has its own control system, fuel store, on-load fuelling equipment and fuel cooling pond.

The turbine house will contain four 142.5-MW turbo-alternators. The steam and electrical connections between reactor units and turbine house will be taken underground through tunnels. The steam will be generated in the boilers at two pressures, 1,418 p.s.i.a. and 590 p.s.i.a. All the higher pressure steam will be passed through the back pressure turbines driving the blowers. These turbines exhaust at the low pressure and after re-heating in the boilers, this steam is passed with the low pressure steam to supply the main turbines. The overall station efficiency when working at these conditions will be 32.9 per cent.

The station will be connected to the national grid—275-kV for connection to supergrid—in the same way as any conventional station.



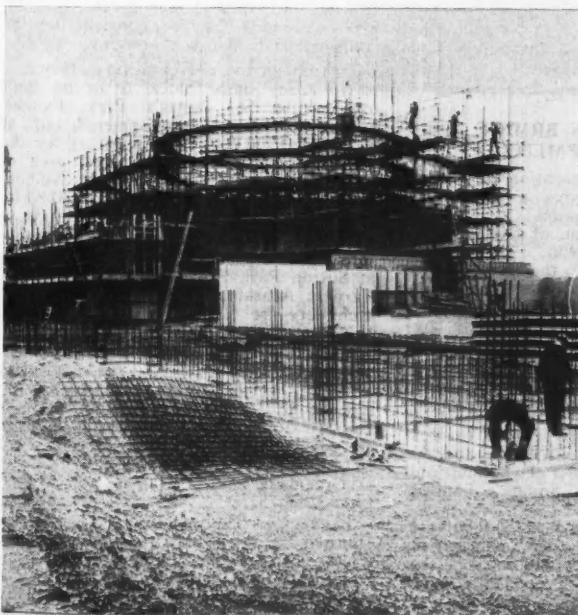
Erection of the Goliath crane. The centre portion is used for installing the cross member

TORONTO CONTRACT FOR TAYLOR WOODROW

Taylor Woodrow (Canada), Ltd., have been awarded a \$570,000 contract to convert a former dentistry building to a school of architecture for the University of Toronto. Completion is due in December this year.

The five-storey building, 130ft. long and 120ft. wide, was at one time an infirmary and has been vacant for two years. The contract involves the demolition and replacement of several existing walls and basement floor, and extensive lathing, plastering and painting operations. A new main entrance will be built of cut stone with wrought iron balustrades. In addition, new heating, ventilating and electrical systems will be installed.

The architects are B. G. Ludlow and Partners, the mechanical and electrical engineers, N. Fodor and Associates, and the structural engineers, C. D. Carruthers and Wallace Consultants, Ltd.



Biological shield of No. 1 reactor above ground level



Half the floor raft of the circulating water pumphouse

EDUCATIONAL BUILDING BEING REVIEWED

IN the course of the recent debate in the House of Commons on the economic situation, the Chancellor of the Exchequer said that in the field of education, there would be reductions in authorisations for minor works. In Circular 13/61, Sir David Eccles, Minister of Education, has told the local education authorities how he intends to implement this announcement.

The announcement of major building programmes of work to be started in 1963-64 will be delayed until the autumn. In the meantime, the Minister will review the proposals for this programme already sent to him by the local authorities with the object of increasing the priority given within the approved building programme to the expansion of facilities for science and technical education.

Minor Works

The minor works programme for the remainder of 1961-62 and for 1962-63 will be considerably reduced. Very few projects will be allowed to start from today until October 1 next. Thereafter the programme will be resumed on a restricted basis, except for the smallest jobs—those costing less than £2,000—on which there will be no restrictions.

Economic Regulator

The Contract Journal understands that between October 1, 1961, and March 31, 1963, a period of 18 months, minor works authorisations are expected to total about £16m. Before the issue of Circular 13/61, authorisations for 1961-62—a period of 12 months—had been set at £16.5m.

The minor works programme consists of a large number of quick moving small jobs and can thus be adjusted, upwards or downwards, at shorter notice and with less dislocation than the programme of major projects. It is therefore being used as an economic regulator within the total educational building programme.

£2M. CITY MUSEUM PLANS

Approval in principle of the City of London Corporation has been recommended for a scheme to establish on a site within the City a museum to combine the London Museum and the Guildhall Museum. Detailed recommendations for the execution of the scheme, which will cost about £2,050,000, will be submitted to the Corporation in the near future.

(Concluded from page 587)

over the river itself is composed of a 100ft. suspended span on two 40ft. cantilevers. The anchor arms form the adjacent spans and are 100ft. long. The piers are in the form of tall slender T's, with hexagonal columns, on large bases or piled foundations according to the ground beneath them. Each carriageway is carried on a separate structure. Although the riveted steel girders below the deck are exposed at each side, countersunk rivet heads and near-matching paint give the impression of an all-concrete bridge.

For landscaping of the motorway, which is mainly in rolling agricultural country, some six tons of grass seed have been utilised on slopes and central reserves. In some instances the limestone has been left exposed to blend in with the natural character of the countryside.

Design of the northern 12½ miles was carried out for West Riding C.C. (county engineer and surveyor, Colonel S. Maynard Lovell, O.B.E., E.R.D., T.D.) and this contract was carried out by the civil engineering consortium of Cubitts Fitzpatrick Shand.

Design of the southern 2½ miles was carried out for Nottinghamshire C.C. (county surveyor, Mr. Reginald A. Kidd, C.B.E., B.Sc., M.I.C.E.) and the contractors were Sir Robert McAlpine, Ltd., who also built the all-purpose 1½-mile long by-pass for Blyth.

£2½ MILLION WYE VALLEY ROAD IMPROVEMENT

WORK is about to start on what will be one of Britain's most unusual roads. At a cost of about £2½ millions, the road between the western end of the Ross By-pass, and Dixon Church, Monmouthshire—a distance of about eight and a half miles—is to be modernised as part of the improved road connection between the Midlands and South Wales, via the Birmingham-Bristol and Ross Motorway.

Although the route will follow the general line of the existing Ross-Monmouth road (A.40), the hilly nature of the country has called for unusual and spectacular treatment. In places, cuttings, largely in sandstone, will be 22ft. deep and embankments up to 40ft. high. For three-quarters of a mile along the steep hillsides of the Wye Valley, one carriageway will be 30ft. above the level of the other.

Existing side-roads will be carried over the road at four grade-separated junctions, while the scheme involves three underpasses, six road bridges and a river bridge.

The work will be carried out in three stages. As announced in *The Contract Journal* on July 20, Mr. Ernest Marples, Minister of Transport, has awarded the contract for the first stage—the three and a half miles of road from Ross By-pass to Goodrich Cross—to the Hadspalitic Construction Co., Ltd., whose tender amounted to £600,655.

Dual 24ft. carriageways will be provided along the route of the present road, with a 15ft. central reservation and verges generally 12ft. wide.

Second Stage

Plans for the second stage—Goodrich Cross to the Monmouthshire boundary—are now nearing completion, and work is expected to start early next year. In this stage, diversions will be constructed to avoid interference with property and to obtain better gradients. On three sections of the existing road the gradient exceeds 1 in 10; on the improved route the maximum gradient will be 1 in 25.

These sections of the scheme have been prepared for the Minister of Transport by the Herefordshire County Council (County Surveyor, Mr. D. H. Banks, B.Sc., M.I.C.E.).

Third Stage

Plans for the third stage of the scheme—from the Monmouthshire boundary to Dixon Church—have been prepared by Monmouthshire County Council (County Surveyor, Mr. D. W. G. Barren, B.Sc., A.M.I.C.E., M.I.Mun.E., A.M.T.P.I.), acting as the Minister's agents. Work on this should start later this year.

£4M. LONDON BRIDGE REDEVELOPMENT

City of London Corporation have been recommended to approve a scheme to relieve traffic congestion at London Bridge through widening of the structure by a further 25ft. to 90ft. This will be achieved by absorbing the river access steps on the west side of the bridge, and is estimated to cost £950,000.

The scheme will be carried out in conjunction with proposals to redevelop London Bridge Station by erection of a 17-storey tower block of offices, 210ft. high, with four-storey wings of offices and shops. Outline planning approval of the L.C.C. is now being sought for this scheme, the cost of which is estimated at £4m., and for which the architects are T. P. Bennett and Son, 43 Bloomsbury Square, London, W.C.1.

Car parking under a new concourse is provided in the station plan, and parcels handling and Post Office traffic will be segregated. A footbridge across Duke Street Hill will be incorporated in the station redevelopment to give a pedestrian access link between the station concourse and London Bridge.

Late Construction News

OXFORD COLLEGE CONTRACT.—The superstructure contract of the new St. Catherine's College, Oxford, worth about £1m., has been placed with Marshall Andrew and Co., Ltd., 40 Broadway, London, S.W.1, who are at present engaged on the construction of the foundations. Work on the new contract will start within the next two months. The architect is Prof. Arne Jacobsen, in collaboration with Mr. P. Dowson, Pembroke Studios, Pembroke Gardens, London, W.8, and the consulting engineers are Ove Arup and Partners, 13 Fitzroy Street, London, W.1. The quantity surveyors are Northcroft, Neighbour and Nicholson, Victoria House, Southampton Row, London, W.C.1.

STAFFS. ROAD CONTRACT.—Staffordshire C.C. have accepted the tender of Martin Cowley, Ltd., Clay Cross, Derby, for the reconstruction and widening of a section of the Rugeley-Lichfield Road, A.51, at Lyncroft. The work will include the construction of a roundabout at Constitution Fork, and regrading of route A.515 for 800ft. F. Jepson, O.B.E., is the county surveyor.

CHELTENHAM DWELLINGS.—Cheltenham B.C. have negotiated a contract with George Wimpey and Co., Ltd., for the erection of 74 one-bedroom flats in "No Fines" construction at Arle Estate. Their fixed-price tender amounted to £152,644.

SHEFFIELD FACTORY.—W. G. Robson, Ltd., Sheffield, are to start work on August 14, on the erection of a £250,000 factory at Harleston Street, Sheffield, for Moorwood-Vulcan, Ltd. Plans have been prepared by Husband and Co., Glossop Road, Sheffield.

LONDON PREMISES ALTERATION.—Alterations and enlargements are to be carried out to premises at 17 Bruton Street, London, W.1, for the First National City Bank of New York. The contract, worth about £100,000, has been placed with Kyle Stewart (Contractors), Ltd., Wembley Park, Middx. Plans are by Guise, Davies and Upfold, 132 Sloane Street, London, W.1.

LONDON OFFICES CONVERSION.—Sir Robert McAlpine and Sons, Ltd., have been awarded a £220,000 contract to convert block of flats into offices for the Prudential Assurance Co., Ltd., at New Cavendish Street, London, W.1. Work starts this month and is due to be completed within 12-15 months. Prudential's own staff prepared the plans.

RAMSGATE SEWERAGE SCHEME.—Subject to approvals, Ramsgate B.C. have provisionally accepted the tender of Martin Cowley, Ltd., 112 Jermyn Street, London, S.W.1, at £239,551, for constructing the Cliffsend and Manston sewerage scheme.

FIFTEEN - STOREY NEWCASTLE BLOCK.—A 15-storey office block is to be built overlooking St. James's Park football ground for Webbar Developments, Ltd., at a cost of £300,000. The contract for the block, which will have a floor area of 63,000 sq. ft., has been placed with Holland & Hannen and Cubitts (Scotland), Ltd.

SUTTON OFFICE BUILDING.—Tenders from selected contractors are due in next week for the erection of an office building at Sutton Park Road, Sutton, Surrey, for Turners Asbestos Cement Co., Ltd. The architects are Elliott, Cox and Partners, 172 Buckingham Palace Road, London, S.W.1.

LEEDS HOUSING.—At their meeting yesterday, Leeds City Council were recommended to accept the following tenders: Two 10-storey blocks of flats, 26 garages, etc., at Meynell Street—Myton, Ltd., £274,283; 121 dwellings and 87 garages at Greenside Estate—Harlow and Milner, Ltd., £258,757.

BARRACKS CONVERSION.—The War Department are inviting tenders for the modernisation and conversion of Connaught Barracks, Dover. The architect is Gordon Jeeves, 61 Catherine Place, London, S.W.1, and the quantity surveyors are Ernest R. Babbs and Sons, 187 Piccadilly, London, W.1.

STAFFORD BY-PASS

Day and Night Working to Speed Completion

THREE-HUNDRED men have been working day and night shifts on Stafford By-pass to ensure that this urgently needed road, which also forms the first seven miles of the Birmingham-Preston Motorway, M.6, from the southern end, is completed and opened to traffic within the next 12 months.

Construction of the 116ft. wide road through the hilly country around Stafford involves the excavation and movement of a million cu. yd. of earth for cuttings and embankments. Earthmoving began last August, but work on embankments was stopped soon afterwards by continuous rain—more than 7in. fell in six weeks. This summer, with better weather, earthmoving has averaged 50,000 cu. yd. a week and recently the rate has been stepped up to 70,000 cu. yd.

At one road crossing alone, between 40,000 and 50,000 cu. yd. have been scooped out of the crown of a hill so that the Stafford-Newport road may pass under the motorway in cutting. Formerly this road followed the contour of the hill; it will now be lowered some 20ft.

Tougher Than M.1

Many members of the team on the main contract, including the contractors' project manager, Mr. J. C. Proud, and most of the gangers, helped to build the M.1. The

built to connect with the Stafford-Wolverhampton Road A.449. Part of the latter route is being diverted to join a surface roundabout 500ft. by 350ft. over which the motorway will later be extended southwards towards Birmingham. The abutments of the motorway bridge are now under construction.

Twenty-seven Bridges

A frost-free winter enabled work on the concrete foundations of the 27 bridges along the by-pass to proceed without interruption and many of the bridges are nearing completion. These bridges, designed for the Ministry of Transport by the Staffordshire County Council, will, it is considered, be one of the most attractive features of the by-pass. They show a great variety of design.

An unusual feature of the steel girder bridge over the Staffordshire-Wolverhampton Railway is a cantilevered ledge, or coping, which should prevent disfigurement of the parapet by smoke from steam locomotives. This bridge, built on a 56 deg. angle of skew is finished except for the parapets.

Another bridge, a two-span prestressed concrete structure over Barnbank Lane, has a splayed central pier and curved wing walls to match. This also is nearly finished.

Going northwards drivers will see Stafford Castle on a promontory outside

ments had to be built on concrete rafts 15in. thick resting on piles—a lengthy task now completed. Another problem was that the viaduct had to be built without interfering with railway services which total 250 trains a day. This problem was complicated by the fact that heavy-lift cranes could not be employed to hoist the concrete beams into position owing to the absence of firm ground. The solution called for much ingenuity and improvisation.

The 282 prestressed concrete beams for the three bridges are being cast on the site. Each beam, 80ft. long and weighing 50 or 60 tons, is then jacked on to rollers, winched on to a bogie, and pushed along rails by a tank locomotive to the abutments.

Between the abutments a Bailey bridge is erected. Each beam is then winched on to the bridge, and lowered through the Bailey bridge on to the footings.

Two of the bridges, one with three spans and the other with five, are complete except for the deck. Abutments of the third bridge over the railway and the River Sow are finished and ready to receive the 88 concrete beams.

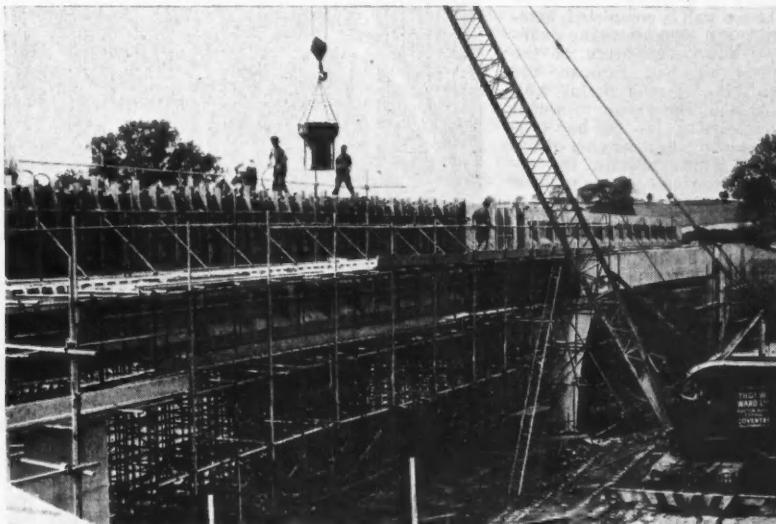
Viewed from a distance the beams appear flat. In fact they are almost imperceptibly arched to avoid giving the sagging effect produced by perfectly horizontal lines. The outer beams will be faced with pre-cut facer units with fluted surfaces.

Work on the viaduct, begun in August, 1959, should be finished by February of next year. Carriageways will then be constructed to link up with the other by-pass road works.

Stafford By-pass will take much of the heavy industrial traffic which at present passes through the old town on route between the Black Country, the Potteries, and south Lancashire. At Creswell Viaduct there will be a two-level junction with the existing road A.5013, and from this point there will be a short length of new trunk road connecting with the A.34. Work on this link road is already far advanced.

The total cost of the by-pass including the link with A.34 is £3,880,000 of which about £1,200,000 is for the viaduct.

The works have been designed for the Ministry of Transport by Staffordshire County Council (county surveyor, Mr. F. Jepson). J. L. Keir and Co., Ltd., are building the viaduct and the contractors for the road and other associated works are John Laing Construction, Ltd., who are also building a further 19 miles of the M.6 motorway from the northern end of the by-pass to the Staffordshire county boundary.



A 95ft. long beam being concreted in situ on the Barn Bank Lane Bridge

general opinion is that building the M.6 is an even harder assignment.

For example they have encountered large deposits of peat. At one point (Doxey Brook) over 5,000 tons of peat had to be dug out; at another (Rising Brook) between 10,000 and 15,000 tons.

Although delayed by the weather, road formation work is generally well advanced. One section the base of the first of the dual 36ft. carriageways has already been laid. The layout of the road consists of two 36ft. carriageways flanked on each side by marginal strips each 1ft. wide. The carriageways are separated by a 13ft. central reservation and on the outside there are hard shoulders each 10ft. wide. The carriageway construction will consist of a sub-base of compacted granular material on which is laid a cement-bound base which will be surfaced with hot rolled asphalt. The hard shoulders will be of similar construction except that they will be finished with surface-dressed tar macadam.

Where the by-pass starts near the village of Dunston, a flyover junction is being

the town perfectly framed in the slender arch of a footbridge serving the Rising Brook housing estate. This light reinforced concrete bridge crosses the motorway in a single span of 145ft. In its unfinished state it appears bent like a bow, but the curvature will be softened when the bricked wing walls and ramped approaches are added.

No fewer than five bridges are constructed or under construction within half a mile, including one over the Shrewsbury-Newport railway line and another over the Doxey Brook.

Creswell Viaduct

The massive Creswell Viaduct, which will carry the motorway over the valley of the River Sow and the main line railway is in the final stages of construction. Nearly two-thirds of a mile long and 35ft. high, it consists of three bridges linked by embankments.

When work started two years ago, the engineers faced problems of great complexity. One was the existence of deep pockets of peat. This meant that embank-

132-kV CABLE FOR SOUTH WALES POWER LINK

British Insulated Callender's Cables, Ltd., have been awarded a contract by the Central Electricity Generating Board for the supply and installation of some 13½ miles of 132-kV power cable at Cardiff. The contract is worth £238,000. The installation will be carried out by British Insulated Callender's Construction Company, Ltd.

This major power link, between Cardiff East and Cardiff West sub-stations, over a cable route of 7,780yds., will comprise one circuit of three single-core oil-filled cables with a 0.85 sq. in. copper conductor. The cables will be sheathed with corrugated seamless aluminium with an extruded p.v.c. oversheath. The circuit, which has been designed to transmit a load of 180-MVA, will be interconnected at joint positions to form a cross-bonded system to minimise sheath losses and sheath voltages.

Included in this contract, which is scheduled for completion in July, 1962, are 132-kV interconnections between Cardiff East sub-station and the terminal tower of the overhead lines from Upper Boat, as well as 33-kV interconnections between transformers and switchgear in the sub-station.

HIGH SHAFT SINKING RATES AT KELLINGLEY COLLIERY, CASTLEFORD

From A Correspondent

A NEW colliery is being sunk at Kellingley in the Castleford Area of the National Coal Board's North Eastern Division. When in full production it will be capable of producing at the rate of 6,000 tons a day, or about 1½ million tons of coal a year, and will provide employment for about 3,000 men.

Two shafts both 24ft. in diameter are now being sunk to a depth of approximately 850yd. and for the first 50 years the output will be extracted from the Silkstone and Beeston seams which lie at depths of 2,087ft. and 2,298ft. respectively. Boreholes proved the existence of 600ft. of water-bearing Permian measures to overlie the coal measures, the upper limestone being particularly heavily watered.

The use of brine freezing for water control, together with a non-simultaneous method of sinking and shaft lining, entailing a high rate of pouring and an extremely consistent mix are amongst the major features of this high-speed shaft sinking which is being carried out by the Thyssen Shaft Sinking Co., Ltd., of London and Llanelli. The freezing process used to seal the shafts against inflows from the strata was carried out by the Foraky Co., Ltd., 37 bores and one centre being employed to each shaft. Of these only two holes became sealed during sinking.

Notwithstanding the limitations imposed by the freezing process, high sinking rates were maintained during sinking through the frozen ground and when clear of this handicap, in the unfrozen ground a new record for shaft sinking was established when 336ft. were sunk and 345ft. lined in No. 2 shaft.

The main sinking of No. 1 shaft started on February 26, 1960, and No. 2 shaft on June 19, 1960. Each shaft is served by two tower-mounted friction winders, and these are being used for the sinking operation. After shaft sinking has been completed the winders will be fitted with closed loop-control, an electrical device to enable winders to be operated by remote control from the banksman's level. It is proposed to wind the output at No. 2 (upcast) shaft in 15-ton capacity skips; No. 1 (downcast) shaft will be equipped with two three-deck cages and be used for winding men, materials, and dirt.

Freezing Principle

The freezing principle employed at Kellingley consisted of maintaining a continuous sheath of frozen strata around the shafts during sinking, this being effected by circulating the brine through tubed boreholes which extend well into the non-permeable strata to ensure complete sealing of the shaft. The verticality of the bores is carefully controlled such that they do not intersect the shaft line and in order that each has approximately the same cooling area surrounding each tube.

The freezing tubes which have screwed connections, are lowered as soon as a hole is completed, the first tube being plugged at its base. As successive joints are made, they are pressure tested for tightness upon which the success of the system depends. A small diameter tube is then inserted into the completed column and, after a final pressure test, connection is made with the brine mains, the refrigerant flowing down the small bore tube and up through the column to the mains on the refrigeration plant. The refrigerant is a solution of calcium chloride in water, the freezing point of which is -22 deg. F. at a specific gravity of 1.24. The surface brine mains are 8in. bore and are lagged with a 2½in. thick layer of insulating cork.

At the refrigeration plant, liquid

ammonia is evaporated at low pressure in tubular heat exchangers, the latent heat of evaporation being derived from the brine during its passage through the heat exchanger tubes. The ammonia gas is taken from the heat exchangers to high-speed single stage vee-type ammonia compressors, these being 6-cylinder machines driven by 150-h.p. A.E.I. slip ring induction motors. They deliver to banks of condensers which are cylindrical heat exchangers upon which cooling water is played, resulting in liquefaction of the ammonia before passing out through automatic expansion valves and on to the brine heat exchangers. Each ammonia circuit is independent, the four circuits being used to give the maximum reliability in maintaining brine circulation. Some 1,200lb. of ammonia is used in each circuit. The brine circulation is some 70,000 g.p.h., maintained by two pumps, the brine containing some 70 tons of calcium chloride.

The circulation of the brine through the entire system results in long columns of frozen ground being produced round each freezing tube, the diameter of the columns increasing as freezing continues until they merge with one another and an ice wall is formed. As the ice forms, water is displaced and when the ice wall is completed, careful measurements of the quantity and temperature of the water expelled through the pilot hole give a useful indication of the extent to which the freezing process has progressed. Whilst sinking of the shaft is in progress, the refrigeration rate is maintained in excess of the melting rate due to the higher temperature of the surrounding rocks, the ice wall gradually thickening until it extends for some distance beyond the excavation and the unfrozen core has become completely frozen, thus forming one solid cylinder of frozen rock in which the shaft is sunk. When this is achieved, any faulty bore can be isolated from the mains without affecting the progress of the work.

Rotary Drilling

Rotary drilling for the freezing bores began at the end of March, 1958, and was completed in early September, 1958, a total of some 49,450ft. being drilled with the boring completed and the refrigeration plant installed, freezing at the site of No. 1 shaft was started on October 27, 1958, the ice wall being closed at the end of February, 1959. Commencing and closing dates for No. 2 shaft were December 15, 1958, and July 9, 1959, respectively, the resulting ice walls formed being some 80ft. in diameter.

Sinking through frozen ground entails a number of particular considerations; of these, the first is concerned with limiting the amount of charge and determining the most suitable pattern to obviate damage to the freezing tubes by excessive shock waves. Drill penetration rates are usually much lower and a fairly high number of holes may be rejected. In particular, difficulties are experienced with ice fissures extending for many feet which cause the steels to become frozen into the ground.

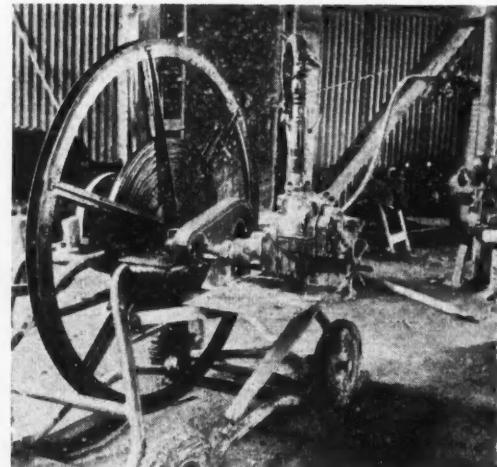
With regard to shaft lining problems encountered here, include those due to the effect of the heat of hydration on the ice wall and its consequent expansion. With regard to shaft lining, of the greatest importance is the need to ensure the highest degree of consistency in the mix and the

minimum amount of segregation during pouring.

A further feature of note is the accommodation required to be made to allow for the effects of surface lift. This feature resulting from the expansion caused by the formation of ice and variation of temperatures is sufficient to throw the permanent winding towers out of alignment. To enable corrections to be made, the tower bases are mounted on grillages with facilities for jacking in order to keep the towers level.

Account had also to be taken of the need for providing effective support for the weight of the shaft lining sinking through the frozen ground due to the fact that corrugated sheets prevent the concrete from adhering to the ground.

The majority of lining in the frozen ground is of 18in. thickness, but towards the base of this frozen area, at 460ft., the thickness of the lining was increased in steps from 18in. to 24in., then to 27in., at this point the frozen ground ended. Below this level the lining was reduced in thickness from 27in. to 24in., then to 18in. and finally to the normal ground lining of 12in.



Controlled raising and lowering of the shaft survey tape is effected by this C.P. type 327R drill

The main equipment used for the sinking consists of a two-deck stage which is suspended in the shaft by four ropes which also act as guide ropes for the riders of the hoppits. The decks are 30ft. apart and surmounted by a catwalk 10ft. above the top deck. The first or upper deck carries four 2-ton worm-driven self stabilising winches for movement of the shuttering in the shaft. The air and water manifolds are also carried on this deck. Between the decks is located the octopus and chutes for emplacing the concrete lining, the chute trunking being of light gauge steel sections joined by chains to give flexibility in operation. Two columns for air and water services are also fixed between decks, the top manifolds receiving hoses from pipelines temporarily attached to the shaft lining.

Underneath the bottom deck of the sinking stage is situated the mechanical loading equipment. This is compressed air driven and is suspended from an inner and outer monorail. The main hoist motor which operates the 20 cu. ft. Priestman Cactus grab, is also mounted on rails inside the unit, which then allows the grab transverse as well as circumferential movement. The 20 cu. ft. Priestman Cactus grab is of the compressed air, six-bladed type.

The circular monorail is broken for a short section to allow the stage to be raised above the level of the services pipes fixed to the shaft wall and at the point where it is broken, an inner rail on a shorter radius is provided to maintain continuity. The drilling hoppit consists essentially of a number of radial steel sheet plates which form segments to which the drilling machines are returned after use. Each machine is numbered and a corresponding number is marked on each segment of the hoppit. Thus any defect in the drilling machine is noted on the plate forming the segment corresponding to the drill and is easily read off by the fitter on the surface. The mucking hoppits, No. 1 shaft 85 cu. ft. and No. 2 shaft 105 cu. ft. capacity are secured to the winding rope by three suspension chains, the chains being detachable from the hoppits to leave them clear for loading.

The winders are part of the permanent mine installation. At No. 1 shaft a friction winder is driven by a 1,100 b.h.p. A.E.I. motor whilst at No. 2 shaft the winders are driven by twin 1,100 b.h.p. A.E.I. motors at 11,000-V. The winder drums were modified during sinking to accommodate single rope winding. The towers are of steel construction and are fitted with deflection pulleys in order to bring the winding ropes into the correct position for sinking.

Concrete Mixing Plant

The prime requirement of an extremely high rate of production, coupled with an extremely consistent mix of constant water/cement ratio has been met by the provision of the Blaw Knox AP.100 concrete mixing plant which has an output of 100 cu. yd. per hour and can feed to either shaft. Essentially this plant consists of four sections, the first of which is an eight-compartment batching plant which has an aggregate storage capacity of 100 cu. yd. a weighing unit and a control panel. Cement is stored in extendible bulk cement handling units.

The main section of the plant are the twin Blaw Knox Gyramixers which have a mixed batch output of 28 cu. ft. A further section consists of two specially fabricated conveyors, constructed by Thyssen Shaft Sinking Co., Ltd., which take the concrete to either shaft and the 2 cu. yd. wet receiving hopper located here to receive the concrete before discharge to the 2 cu. yd. Blaw Knox roller skips used for transport down the shaft.

The batching plant comprises three main units, these being the main bin unit which includes the operating platform and control panel, the supporting structure and aggregate weigher and a flared top section. The operation of the plant, through the control panel is by air assisted manual controls and weigh dials. Pneumatic rams control the radial gates feeding aggregate to the weigher, an air operated valve controlling the discharge of cement to an independent weigher. Water is metered out in a 35-gallon siphon type pressure tank calibrated in pounds and gallons and is discharged to the mix by a press-button control. The containers operate at a pressure of 90 p.s.i., the supply being derived from the town mains supply. In addition to the hand operated valves for operating the main discharge rams, the control panel is also fitted with indicator lights which show such points as the position of the mixer door, the length of the mixing period and whether electric power is on for control operations.

The two Gyramixer stationary pan type units incorporated in this plant each have an unmixed capacity of 42 cu. ft. and a mixed batch output of 28 cu. ft. The overhead drive to each is a single, enclosed unit and the pan, fabricated from wear-resistant alloy steel, forms an integral part of the base structure, which allows shallow mixing and eliminates the need for a central pedestal. Discharge is through a 13½ sq. ft. rectangular sliding door, the movement of which is controlled. The mixing unit consists of a rotary gearbox which revolves

round the centre of the pan. It carries two stars, each rotary about its own axis and is fitted with three mixing blades. Floor and wall scraping blades are also attached to the rotating gearbox. The stars rotate at unequal radii and the blade path is such that the entire pan area is covered once in each revolution. With these mixers, batch time throughout the contract was 30 seconds.

The specifications require a minimum strength of 4,500lb./sq. in. at 28 days in frozen ground, the average figures obtained to date being 7,000lb./sq. in. In unfrozen ground the specification is for 3,000lb./sq. in. the average figure reached here being 6,000lb./sq. in. at 28 days. During the lining in frozen ground, Sulfacrete was employed, Earles Portland cement being used in unfrozen ground.

The aggregates are closely checked for organic content, moisture size, etc., and the aggregate pits are heated with steam pipes to maintain an even temperature and hence control the moisture content. The container on the batching plant is also heated, thus guaranteeing uniformity of mix and moisture content. The mix used in the frozen section was: 0.296 tons cement, 0.429 tons sand, 0.729 tons gravel, 12 gallons water. In the unfrozen ground the mix was: 0.239 tons cement, 0.594 tons sand, 0.880 tons gravel, 18 gallons water.

The sinking routine in frozen ground was dominated by the necessity of ensuring that the freezing tubes were not damaged by excessive shock waves. Thus in this section, a three square draw cut, comprising 12 holes, followed by a round of 64 holes was adopted and in order to rationalise the drilling as far as possible, the floor of the shaft was divided up into quadrants and the cut, two machinemen being permanently allocated a section. Thus in the cut, the two most experienced drillers were located, each drilling the full depth of 6ft. and working on diametrically opposed holes. In the quadrants, the first of the two drillers worked to a depth of 4ft. 6in., continuously, the second machineman being permanently engaged in deepening these holes to 6ft.

Ice Fissure Difficulty

Ice fissures of up to 30ft. in depth and 6in. wide caused considerable difficulty when drilling throughout the frozen ground. The frictional heat generated by the rotating bit caused a rapid thaw of the ice, which in liquid form was blown up the hole, refreezing in the process. Thus large numbers of holes were rendered useless by the drill steels becoming completely frozen in their holes.

Modification of the drilling machines to allow for high volume blowing of C/A at the tip, in order to cool the bit and remove from the hole any liquid formed before refreezing took place, met with some success.

Integral drill steels with cross-bits were used throughout the frozen ground, but did not prove ideal for normal ground. Here integral steels with chisel bits produced far better results.

Charging of the boreholes is carried out by N.C.B. deputies assisted by Thyssen personnel. The amount of explosive to be used in any one round in the frozen area was limited to 150lb. to ensure that excess

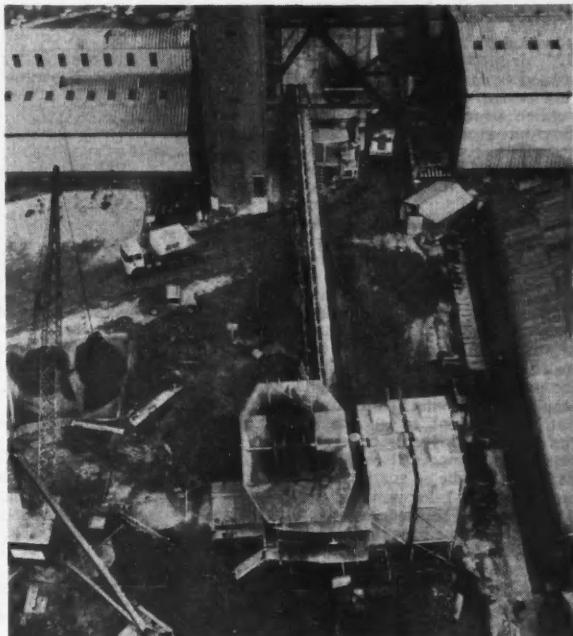
sive shock waves were not set up, which could possibly cause damage to the freezing tubes. The depth of the rounds varied between 6ft. and 10ft. according to the strata encountered.

This limitation of explosives made it necessary to fire twice for each full round of holes bored, the outer or copper holes being fired separately from the rest of the round. Parallel mains electrical firing was employed.

To reduce charging time to a minimum, the buss bars are prepared on surface in a Priming Shed. The buss bars are laid out in accordance with plans displayed on a wall panel which show the exact positions for attaching the detonator leads. These leads terminate in "inert" primers which consist of plaster of paris containing an outer groove for the detonator leads, the detonator being inserted firmly through the centre of the plaster of paris such that it protrudes approximately 4in. into the following stick of explosive. Non-inflammable, sand filled, paper bags are used for stemming.

Smoke clearance is effected by a booster fan in the main 30in. air services column which is carried down as shaft lining proceeds. The stage is raised 150ft. before firing and the shaft is inspected before it is lowered after firing. With the stage in position, mucking commences, using four hoppits. Thus, whilst the grab fills a hoppit on the east side of the shaft, the west winding rope drops an empty hoppit on the west side of the shaft and picks up a full one. When the hoppit on the east side is full the grab swings around and commences loading on the west side.

Loading is always arranged to take place



The Blaw Knox A.P.100 batching plant serving both shafts

underneath the winding rope carrying the full hoppit to the surface.

The temporary support employed in frozen ground consists of steel channel rings, suspended on hooks, with dowels inserted in the ground every fifth ring to provide additional security. Behind the steel rings are placed corrugated steel sheets held against the ground by timber poling boards and wedges.

Procedure

Sinking and lining routine in coal measure strata was to sink 40ft. and to line this section immediately. During sinking, the ground was secured by wire mesh and anchor bolts which were placed at a minimum depth of 4ft. into the rock. This system could not be worked in the frozen ground due to the presence of the corru-

gated back sheets which prevented the concrete adhering to the ground. The following procedure was therefore adopted.

1. Forty feet of shaft was sunk and back sheets placed only in the top 30ft.
2. A concrete crib was placed in this bottom 10ft. section which was in immediate contact with the ground.
3. Sufficient waiting time was allowed to elapse before sinking further to allow this crib to gain strength. Only in the first crib placed in either shaft was this waiting time required.
4. A further 40ft. of shaft was again sunk, and again only the top 30ft. back sheeted.
5. Another crib was placed in this bottom 10ft.
6. As soon as this crib was placed, lining of the first 30ft. (Item 1) took place.

This procedure was followed throughout the frozen ground, and allowed each crib sufficient time to gain strength to support the 30ft. section above it.

The lining was emplaced in 5ft. lifts, the shuttering consisting of two 2ft. 6in. high rings of $\frac{1}{4}$ in. steel plate used with releasing segments. In frozen ground, provision was made in every 5ft. lift for eight injection pipes, with a further eight being located in the crib ring. The grouting was carried out within 10 days of placing any part of the lining, whilst local thawing of the ice was occurring. For each 40ft. section, some 20-30 tons of cement were injected, using a Boulder grouter.

The grouting was carried out at a maximum pressure of 60 p.s.i. The mix was prepared on surface in a tub fabricated from a section of ventilating tube, in which rotating paddles are located, these being powered by a Consolidated Pneumatic type 327 drill. From the mixers, the grout passed by a 2in. plain flanged gravity line down the shaft, this terminating in a rubber hose which connected with the Boulder grouter, situated on the sinking stage. A $\frac{1}{2}$ in. air line was taken from the stage manifold to the grouter, which has a pressure reducing system.

The Boulder grouter, which incorporates its own agitating chamber uses some 80 c.f.m., and has a chamber capacity of 4 cu. ft. The high degree of agitation provided by the grouter was particularly important during the operations, in ensuring the injection of a high quality grout.

Concrete Vibration

The concrete is brought down the shaft in Blaw Knox 2 cu. yd. concrete skips, these discharge to a folding chute, from the base of which is led four trunk ranges, thus splitting the concrete equally into four parts. Each section of the light steel trunking is cone-shaped and has hooks at its base to allow other sections to be attached by chains, this arrangement also giving the maximum flexibility and ensures that concrete is placed without segregation taking place. Of particular importance is the achievement of a thorough vibration to eliminate voids and ensure uniform compaction. This is carried out with Consolidated Pneumatic 325 poker vibrators. During the placing of the lining provision is made for pipe clamp supports, safety rope support, and also Buntong boxes for cross-girders for guide rails.

Holes to accommodate steel pins for the stage safety ropes are placed every 40ft. and also attached to these pins are pulleys to facilitate movement of shuttering in the shaft. The ropes from the four winches on the top deck are passed around these pulleys and then attached to the shuttering at four points. Four safety ropes are attached to the stage during mucking operations to prevent overload on the guide ropes.

Temporary supports are used in the coal measure strata B.R.C.13 gauge wire mesh, 3in. by 3in. squares in sheets of 6ft. by 14ft. and 4ft. roof bolts with Rawlshields and 9in. by 7in. by $\frac{1}{2}$ in. steel plates.

Where ground conditions were normal, roof bolts were placed in rows, 5ft. between each row to allow 1ft. overlap on the wire mesh sheets. If the ground conditions deteriorated, double sheets of wire mesh were placed and extra roof bolts were inserted where necessary.

Occasionally it was found possible to

recover a small percentage of the roof bolts during concreting operations, but this depended entirely on ground conditions.

A lazy chain method of muck tipping is employed at surface, the tipping level being fitted with interlocked, pneumatically controlled doors such that the muck chute loading the storage bins from the hoppit, cannot be lowered without the bottom shaft doors being first closed. The lazy chain which lifts the bottom of the hoppit is also arranged such that it cannot be applied unless the muck chute has first been lowered.

Some 20 shifts are worked each week, the N.C.B. taking over the shafts on Sunday dayshift each week for maintenance and testing of their equipment. Each shift is of eight hours duration with a 30 minute break for food. Underground each shift consists of: one foreman, one chargehand, one grab driver, two onsetters and eight sinkers.

Output from No. 2 shaft during the record breaking month was some 15,000 tons of rock excavated and 2,880 tons of concrete emplaced.

Detailed Attention

The establishment of new high sinking rates at this site by the contractors, reflects to a considerable degree the detailed attention given all aspects of the sinking routine. This is particularly reflected in the attention given to such points as the provision of drill hoppits and the use made of small portable air motors to provide power for such operations as grout mixing, tape winding, etc. These motors are, in effect, Consolidated Pneumatic type 327 reversible drills which are welded to suitable frames and which, in the case of tape winding, provide an extremely convenient method of raising and lowering the shaft measuring tape without damage.

The freezing and sinking contracts are being supervised by Mr. J. J. Gill, divisional new sinkings controller, the agent for the contractors being Mr. E. Borneemann. The master sinker of No. 2 shaft, in which the new record for sinkings of this category was established, is Mr. R. Elkan.

GRADUATED PENSION SCHEME: TRANSFERS

Mr. John Boyd-Carpenter, Minister of Pensions and National Insurance, has made regulations* under which employers can be authorised to use a simplified procedure for preserving the pension rights of certain employees moving from one contracted-out employment to another either under the same employer or covered by the same pension scheme. Also, the new recorded delivery service is made an alternative to registered post for sending Certificates of Assurance. The Regulations, which came into operation on July 31, have been approved in draft by the National Insurance Advisory Committee.

Employees contracted-out under the National Insurance Act, 1959, must have pension rights equivalent to the maximum under the graduated part of the national insurance scheme safeguarded when their employment ends. If the employee is moving to another contracted-out employment, his equivalent pension rights may be safeguarded by transferring them to the scheme covering the new employment—or, if both employments come under the same scheme, maintaining the employee's rights in that scheme. In the normal way, unless both employments are under the same employer and covered by the same pension scheme, the Ministry must be notified of the change of employment and sent a certificate issued by the pension scheme for the new employment showing that the employee's pension rights are safeguarded. The new regulations enable the Minister to exempt particular employers

from either or both these requirements in cases where their employees move to contracted-out employment—

- (1) under the same employer but covered by a different pension scheme, e.g., movement, on promotion, from a works scheme to a staff scheme;
- (2) under a different employer but covered by the same pension scheme, e.g., movement within an associated group of companies all using the same pension scheme.

Any employer wishing to obtain such exemption should write to the Ministry of Pensions and National Insurance, N.P.E. Group, Newcastle upon Tyne, stating the reference number of his contracting-out certificate and the class of case for which he desires the Minister's dispensation.

A.P. CEMENT EXPORTS REDUCED

Exports of their cement have been reduced, revealed the chairman of Associated Portland Cement Manufacturers, Ltd., Mr. J. A. E. Reiss, when he addressed the recent annual general meeting of the company.

Pressure of home demand for cement was causing embarrassment to the company, Mr. Reiss stated, and the company had had to reduce exports to some extent to help the home market. But he thought that the recently introduced oil duty had encouraged them to reduce exports much more. The effect of the duty on oil-fired works had been to increase costs there by 12½ per cent., and this had really priced the company out of a large part of the export market.

*The National Insurance (Non-participation—Assurance of Equivalent Pension Benefits) Amendment Regulations, 1961, S.I. 1961, No. 1378, price 4d. These documents can be obtained from H.M. Stationery Office, or through any bookseller.

HEREFORD WIRE PRODUCTION BUILDING

A new wire drawing department building, 325ft. in length, is under construction at Hereford for Henry Wiggin and Co., Ltd.

The mill is of single-storey design with a flat roof and a frame of shop-welded construction, including roof girders 7ft. deep, track girders for 3-ton E.O.T. cranes, N type lattice girders and Z shaped monitor frames.

Rectangular in plan, the building consists of one 75ft. and five 55ft.-wide bays, 325ft. in length, the lowest height clearance being 24ft. 6in.

The new manufacturing capacity will be devoted to the production of high nickel alloys including electrical resistance wire.

W. S. Atkins and Partners, 156 Victoria Street, London, S.W.1, are the consulting engineers for the scheme. The structural frame is being fabricated by Braithwaite and Co. Structural, Ltd.

COAL IN OXFORDSHIRE

The National Coal Board are now analysing samples of coal found near Witney in Oxfordshire.

A statement issued by the D.S.I.R. says that drillings began in 1960. A number of thin coal seams were penetrated between 1,005ft. and 1,928ft., including a 3ft. seam at 1,661ft. At the end of the year the depth was 1,928ft. and boring is continuing and has now reached a depth of over 4,500ft.

Between the depths of 1,928ft. and the present depth the coals have been found at several horizons, including some of thicknesses exceeding 2ft. 6in. It is hoped to continue boring to establish whether productive measures will be found.

BRIGHTON SEAFRONT DEVELOPMENT

Ministry Approval Sought for Myton Scheme

MAJOR building developments affecting Brighton's seafront and a commercial area inland are proposed in a scheme which Brighton Town Council is to submit to the Ministry of Housing and Local Government.

If approval is given, the work, costing in the region of £6m., would be carried out by Myton, Ltd., a member of the Taylor Woodrow group of building and civil engineering companies, on a 15-acre site between Western Road and Kings Road. Russell Diplock Associates are the architects and planning consultants, and the scheme was prepared in conjunction with Sir Hugh Casson, Brighton's consultant architect.

The proposals make allowance for a new "five-star" hotel which could replace the existing Grand Hotel; three tower blocks of flats providing more than 300 flats in all; shops and offices; and an entertainment centre on the site of the present Grand Hotel.

Separating Traffic

Pedestrians and motor-vehicles would be segregated in one of the first large-scale developments of its kind. Plans are for inter-related "pedestrians only" squares to be surrounded by buildings on three main levels. The concourses on the upper levels would be restricted to foot traffic, and parking and service roads to the buildings would be entirely separate and beneath the concourses. Motorists wishing to shop would park their cars and reach the pedestrian ways by staircases, ramps, lifts and possibly escalators.

The existing thoroughfare, Regency Street—Upper Russell Street, would continue to run straight through the site below the pedestrian concourses and several other points of access would be provided round the perimeter of the site for motor traffic.

In addition to parking areas for the requirements of the development, provision would also be made for public parking for some 1,000 cars.

Shops on Two Tiers

The shopping facilities would include a department store, a supermarket and about 100 smaller shops, some of which would be on two levels. The highest of the tower blocks of flats would rise some 300ft.

Other facilities proposed include a medium-sized conference hall, with allied exhibition space, a ballroom, public houses, restaurants and entertainment facilities. Landscaping, an integral part of the planning, includes lawns, trees, flowering shrubs, pools, sculpture and fountains.

The Myton scheme for Brighton's redevelopment was one of the three short-listed by the Town Council and placed before the Royal Fine Art Commission in 1960, and was the one subsequently



Artist's impression of development looking seawards

selected for further discussion, in the course of which Myton's original proposals involving 11 acres have been extended to 15.

It is hoped work will begin next year.

MODERNISATION OF DONCASTER WAGON WORKS

THE complete reorganisation of the electric power supplies to the British Railways Wagon Works at Carr Hill, Balby, Doncaster, Yorkshire, has recently been completed and commissioned. This is one of the extensive modernisation schemes, which have been undertaken recently by the Eastern Region under the direct control of the Chief Mechanical and Electrical Engineer, Doncaster, Crompton Parkinson, Ltd., being the main contractors responsible for the complete installation.

The work involved the modernisation of the motive power works marshalling yard sub-stations by incorporating new 11-kV switchgear, the establishment of three additional new sub-stations, the dismantling of an existing overhead line, and the replacement of this line with new ring main cables.

The Wagon Works obtains electric power from the main plant works, which is several miles distant and which also serves marshalling yards and motive power works en route. During the modernisation

work it was necessary to maintain a supply to these places at all times, particularly essential being that no interruption should occur to supplies used for signalling. This was achieved by careful planning and progress of work, which involved the laying of 4,000yd. of high tension 11-kV ring main cable and the temporary adaptation and use of an existing 37-year-old overhead line. This line was successfully sectionalised at one point and utilised until the new ring main cables had been partly installed and commissioned; after this the overhead line was removed.

The new high tension ring main cables were buried in the normal way for part of the route, and the remainder carried in special asbestos cement troughing mounted on concrete posts.

"Track Possession"

In order to lay this considerable amount of cable alongside the railway line, "track possession" had to be obtained and considerable notice given to the railway authorities that possession of the track would be required. The main route was successfully laid in operations on two (Concluded at bottom of next column)

USE OF RUBBER IN ROADS

Reports of National Rubber Bureau

THE annual report for 1960 of The Natural Rubber Bureau, now published, records an important result achieved in the research into rubberised road materials in which the Road Research Laboratory and the Bureau are co-operating. It states: "A method of preparing a rubberised cut-back bitumen has been developed using latex in which the temperature of mixing has been kept below that at which degradation on any appreciable scale will occur.

Progress was also made in researches designed: (a) to assess the value of adding sulphur to rubber bitumen; and (b) to devise methods of obtaining stable mixtures of rubber in tar.

Positive Results

Referring to full-scale road experiments the report mentions further positive results. "In some of these," it comments, "there are indications of the superior properties of the rubberised material when compared with the control materials. In particular, in the case of the rubberised bitumen macadam experiment on trunk road A.15 at Yaxley, Huntingdonshire, the majority of the rubberised sections are showing a superiority over the normal bitumen macadam."

Regarding commercial work, the report states: "Upwards of 60 miles of rubberised bitumen or tar surfaces were installed in the U.K. in 1960" and mentions the use in Europe of several hundred tons of a rubber bitumen concentrate containing 31 per cent. rubber; the laying of 20 miles of rubber surface dressing in Buenos Aires; the installation of 85 areas of road and airfield surfacing in Australia.

Australian Research

Concerning Australia it adds: "One interesting line of research carried out in collaboration with the Victorian Country Roads Board seeks to develop a rubber solution which can be added on site to the distributor or spraying unit and dispersed through the bitumen by means of the circulating pump. Masticated smoke sheet dissolved kerosene has been used in full scale road trials. This has proved promising enough for several bulk orders to be secured for the coming season."

Another interesting development was the use of rubberised slurry seals in South Africa.

Copies of the Natural Rubber Bureau's Annual Report are available free of charge from: The Natural Rubber Bureau, 19 Buckingham Street, London, W.C.2, and its offices overseas.

Sundays, when work was in progress from 6 a.m. till 4 p.m. In the first instance drums of cable were loaded onto a special train, and the whole consignment was paid off alongside the track into the trench or into the concrete troughing. This was a considerable operation, calling for complete co-operation with the British Transport Commission; a maximum of 1,500yd. was laid in one day. In order to maintain supplies, temporary sub-stations were erected at each point whilst the sub-stations were being re-equipped and new cables jointed.

Power House

The modernisation of the old Wagon Works power house, which was converted into a new sub-station, was carried out progressively together with the civil contractors. At all times A.C. and D.C. supplies had to be maintained, and this necessitated the moving and temporary mounting of one of the existing 500-kW rotary converters to allow building work to proceed. In spite of the age of the machine, the re-siting and re-commissioning was successful, providing temporary D.C. supplies to the Wagon Works as a whole. After the installation of new rectifier equipment, this rotary converter was scrapped.

In addition to the installation work, Crompton Parkinson, Ltd., supplied two 11-kV switchboards, one 1,500-kVA transformer, one 500-kVA transformer, and 7,000yd. of PLYSW/PVC power cables.

In Parliament

LOCAL AUTHORITIES ASKED TO RESTRAIN AND POSTPONE EXPENDITURE

SPEAKING last week in the debate on the economic situation, Mr. Selwyn Lloyd, Chancellor of the Exchequer, said the Government were seeking the co-operation of local authorities in restraining and postponing expenditure, capital and current, wherever they could, to relieve the overload on the economy. This would involve the postponement perhaps for a considerable period, of "many desirable projects". There was a great deal of work in hand, so that new authorisations and loan sanctions to local authorities would for some time have to run at a much lower level.

The Chancellor went on to say that the established New Town Development Corporations would be asked to contain their rate of expenditure within present levels and to make reductions where they could over the whole range including education, health and roads.

He hoped that the effect of this would be that the local authorities' capital expenditure in 1962-63 would, in the aggregate, not exceed significantly that of the current year.

Road Programme Stands

In the field of education there would be reductions in authorisations, for minor works and some rephasing of the educational building programme. For roads, the Government had decided upon a firm five-year programme, which would involve a considerable increase above the present rate of expenditure, but one which he judged to be within our capacity, and also one which he thought was directly related to production and productivity.

QUESTIONS AND ANSWERS**Lindsey Roads**

Mr. E. L. Mallalieu asked the Minister of Transport why the county of Lincolnshire, Lindsey, had not been included by him for authorisation of any classified road scheme of over £100,000 grant value for the periods 1961-62, 1962-63 and 1963-64; and whether reconsideration would be given to this matter at an early date.

Mr. Marples: The schemes costing over £100,000 included in the three-year classified road programme were selected after careful consideration of national priorities and with special regard to the needs of congested urban areas. It was not possible to include all the schemes submitted. I hope to announce the schemes for 1964-65 later this year.

Cross-channel Cable

Mr. Nabarro asked the Minister of Power when the cross-channel electricity cable would start to operate; what was the capacity; and what economies would result in capital investment in the electricity supply industry and to the consumer.

Mr. George: The cross-channel cable is expected to be working commercially before the end of the year; its capacity will be 160-MW; the capital saving from its installation will be about £3,400,000, but this economy will not significantly reduce the average price to the consumer.

London Airport Terminal Building

Sir A. V. Harvey asked the Minister of Aviation when he anticipated completion of the terminal building for international traffic at London Airport.

The Minister of Aviation (Mr. Peter Thorneycroft): The first part of the new passenger terminal for long haul services

should be completed during October and the remainder next spring.

Gatwick Airport Runway

Sir A. V. Harvey asked the Minister of Aviation what steps he was taking to enlarge and improve the runway facilities at Gatwick Airport.

Mr. Thorneycroft: Gatwick Airport was designed for use by short and medium haul services and not for the heavier long haul aircraft taking off at their maximum all-up weight. It would be uneconomic to duplicate the facilities which have been provided at Heathrow for regular long haul services.

To meet the requirements of short and medium haul aircraft at Gatwick, I have recently increased the distance available for take-off at the western end of the existing runway. I have also asked consulting engineers to survey and make an estimate of the cost and time required for the construction of a second runway.

London Helicopter Stations

Mr. Dodds asked the Minister of Aviation if he was yet able to publish the Report of the Committee on the Planning of Helicopter Stations in the London Area.

Mr. Thorneycroft: In its first Report, the Committee recommended three possible sites for the operation of regular services with large-scale helicopters: Nine Elms Goods Yard, Cannon Street Station roof and St. Katherine Docks. Detailed technical and economic studies are continuing.

New Hospital, Truro

Mr. Hayman asked the Minister of Health when tenders were to be invited for the new area hospital at Truro; and when work on it would begin.

Mr. Powell: I look forward to laying the foundation stone next May.

Mr. Hayman: Will the Minister explain the delay, because at the end of November last he said in this House that the working drawings of the first phase would be completed by the end of December and the bills of quantities would be ready by May of this year? Why is there to be a delay of 12 months in the laying of the foundation stone?

Mr. Powell: The laying of the foundation stone does not follow immediately upon the completion of the bills of quantities. I am satisfied that this is going ahead so as to enable me to lay the stone next spring.

New Hospital, Lindley

Mr. Wade asked the Minister of Health whether he is now able to state when the new hospital at Lindley, Huddersfield, would be completed; and what progress had been made.

Miss Pitt: Work is in progress on the first phase, which should be completed next year. Working drawings are being prepared for the second phase.

Parking Spaces

Mr. Wingfield Digby asked the Minister of Transport what plans he had for encouraging the provision of parking harbours where pavements were wide, similar to those in Berlin, so that extra parking space could be provided without the flow of traffic being impeded.

Mr. Marples: This is already done in some places, but there is not much scope for it. Where bays can reasonably be cut into pavements on busy streets in this country the space is normally better used by vehicles loading and unloading or picking up and setting down passengers. But highway authorities are free to provide parking space in this way where circumstances permit.

EXETER BUILDING TO BE MOVED BODILY

A PLAN by Exeter City Council for removing a building at 16 Edmund Street and re-erecting it on a site at 48 and 49 West Street, is to be accomplished by moving the building bodily on a special type of bogie.

The contract for the building work in connection with the removal and re-erection has been placed with T. B. Keate and Co., at £4,950, and the framing up and moving will be carried out by Messrs. Pynfords at a cost of £2,080. The consultant architect for the work is Mr. David Ny.

A recent meeting of the contractors and the architect worked out the following programme for the work:

Oct. 1. General contractor to commence preparatory work on the foundations and reinforced concrete raft, etc., on the new site.

Nov. 1. Removal contractors to commence crating the building in its existing position.

Nov. 28. Transportation of the building to the new site to commence. This will be done overnight and the building will be taken as far as the open space in front of St. Mary Steps Church where it will lie for a day, and the following day will be transferred to its new position on a prepared foundation and floor.

It is anticipated that the final move into position will be made by the night of November 30. Then there will be a further three months work by the general contractor on the re-erection of the building and it should be ready for occupation at the end of February, 1962. In view of the complicated operations a comprehensive insurance is to be taken out by the Council, covering the building, transportation, third party risks and other necessary cover related to both contracts.

The B.B.C. has requested permission to televise the whole operation of removal and re-erection.

ELECTRICAL INSTALLATION CONTRACTING

Progress of the National Inspection Council

The current quarterly progress report of the National Inspection Council for Electrical Installation Contracting (N.I.C.E.I.C.) refers to the issue of 16,000 free copies of the 5th edition of the Roll of Approved Electrical Installation Contractors.

During the period April 1 to June 30, 1961, 55 applications for enrolment, including one from a borough council, were approved, 13 were rejected and 71 deferred. Twenty-eight firms were removed from the Roll; in most cases due to the firm either ceasing to exist, or ceasing to carry on contracting work. The total number of new applications for enrolment received was 95, 10 below the record figure of 105 for the previous quarter.

A healthy sign of the growing interest of local authorities in the work of the Council is the increasing number of engineers and surveyors who ask inspecting engineers to call on them to explain the Council's procedure for inspections, it is stated.

£346,290 SEWAGE WORKS CONTRACT

Frimley and Camberley (Surrey) U.D.C., have accepted the £346,290 tender of R. J. Horton (Engineers), Ltd., Delph Road, Brierley Hill, Staffs., for extensions to their sewage disposal works.

The contract entails the construction of a grit tank, two 70ft. diameter settlement tanks, a 425ft. long rectangular bacteria bed, humus and sludge digestion tanks, sludge beds, pumping stations and other incidental works. Consulting engineers for the scheme are Willcox, Raikes and Marshall, 33 Great Charles Street, Birmingham 3.

HIGH-SPEED BUILDING METHOD FOR OFFICE BLOCKS

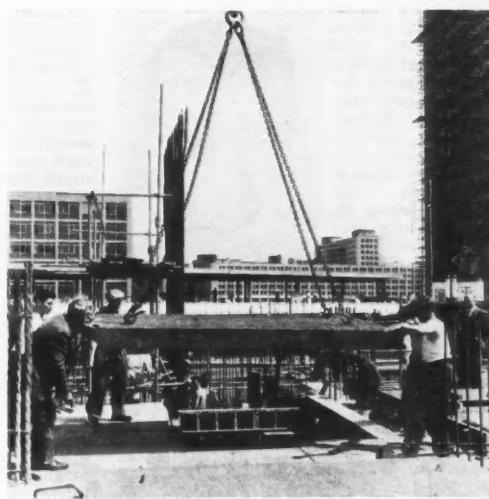
Use of Fram-Pell Prestressed Concrete Floor Panels

After 12 months' research and development work by C. J. Pell and Partners and the Fram Reinforced Concrete Co., Ltd. (member of the recently formed Fram Group of Companies), a new method of floor construction for the erection of large buildings has been used for the first time by Walter Lawrence and Son, Ltd., on the 10-storey Rodwell Group development in Middlesex Street, London, E.1. Floors which would have taken two-three weeks to build by conventional methods are now being completed in less than a week.

The system has also been adopted by George Wimpey and Co., Ltd., for the 18-storey Barbican Block F, which is scheduled to go up at the rate of one floor every eight working days including stairs and wind wall towers. The method involves the use of pre-stressed concrete panel slabs weighing up to 2 tons each, which are cast in special moulds in the Fram Group's Birmingham or Manchester factories and transported, five at a time, by road to London. On arrival they are hoisted into position in 5-15 minutes each and then covered with a layer of in-situ concrete to form the completed floor.

Each slab consists essentially of two or three pre-stressed ribs with a 1 in. reinforced topping and two or three side walls, to form a box-like panel which, for the Middlesex Street development, is 7 ft. 6 in. wide by 22 ft. long by 10 in. deep.

These panels are placed in pairs side by side on the formwork of the building with gaps of about 12 in. between each pair. The channels made by these gaps act as shuttering for the reinforced concrete tie beams of the building which can now be poured together with the 2 in. in-situ top-



Panel slab being lowered into position on Barbican Block F
ping to form the final structural floor.

Fire Resistance

Fram-Pell panel slabs have a minimum fire resistance of one hour, in compliance with the new British Standard Code of Practice, C.P. 115 of July, 1960. They have been devised to enable cranes to lift at the maximum weight for any one operation, as well as to meet the acute shortage of carpenters and joiners available for shuttering work on buildings.

It is pointed out that Fram-Pell panel slabs can only be used economically on buildings with floor areas of about 25,000 sq. ft. and upwards, whose construction has been carefully planned in advance. Capital plant in the shape of prestressing beds and individual moulds of the exact dimensions required for each project have first to be laid down by the manufacturer. The moulds cannot always be used again for making panel slabs of a different size for a different job, owing to their completely enclosed box-like shape.

R. Seifert and Partners are the architects for both the Rodwell Group's Middlesex Street development and for the Barbican Block F.



Panel slab being hoisted from lorry directly into position on ninth floor at Middlesex Street

GREYMOUTH HARBOUR IMPROVEMENT

The New Zealand Government have approved an £87,000 dredging proposal for the harbour of Greymouth, South Island. The dredging will be carried out by a pontoon-mounted grab crane and the spoil will be used for reclaiming present lagoon land close to the town.

LORRY MOUNTED CRANE ASSN.

The executive committee of the Lorry Mounted Crane Association have agreed to adopt the standard signals for crane operatives drawn up recently by the Federation of Civil Engineering Contractors and they have recommended members to display a card, illustrating the signals, inside the cab of every lorry mounted crane.

BRITISH PAVILION FOR INDIAN INDUSTRIES FAIR

A BRITISH pavilion covering 43,000 sq. ft. has been provided by the Board of Trade in connection with the Indian Industries Trade Fair to be held in New Delhi next November.

Owing to the imminence of the monsoon, it was imperative that the building should be of a prefabricated nature, to ensure speedy erection. The all Indian Tayspan system was therefore chosen using welded tubular framing fabricated in Calcutta.

The buildings are of the portal frame design and have been developed from the Arcon range of buildings especially for the Indian market and to meet Indian loading requirements.

About 50 tons of steel components were required, and these were transported from Calcutta by road. Considerable difficulty was encountered during transportation due to the early onset of the monsoon, which caused the destruction and flooding of many of the roads. Despite these setbacks steel erection was completed within 10 days after the first steel columns had been hoisted into position.

The main area of the building consists of three 18-metre and 16-metre spans giving an overall width of roughly 170 ft., 16 ft. 6 in. high and with a length (including for the plan breaks in the ends of the building) of 12 to 14 bays, or some 230 ft. long. Two additional Tayspan structures extend the width of the main elevation by a further 120 ft.

Two Main Sections

The pavilion is divided into two main sections. The first of these is to be devoted to the official exhibit, "Britain: India's Industrial Partner." This leads into the second section, in which British firms and Indian firms with British connections will stage their individual displays on stands provided by the Board of Trade.

Mr. Charles Munroe designed the Pavilion to specifications laid down by the Board of Trade and the United Kingdom Senior Trade Commissioner in India. The structural units were provided by Taylor Woodrow (Building Exports), Ltd. Erection on the site has been carried out by Sikand Construction Co., and the site architects are Sharma and Puri of New Delhi.

MINISTER REFUSES SOUTHWARK FLATS PLAN

Mr. Henry Brooke, Minister of Housing and Local Government, has decided against a plan by the Corporation of Trinity House to build 74 flats and 33 garages on land bounded by Swan Street, Harper Road and Brockham Street, Southwark.

The Corporation had received a similar decision from the L.C.C. who plan to rezone the area from residential to public open space, and the Minister's announcement follows a local inquiry into the case. Mr. Brooke said that although he was not in a position to give a decision on the rezoning as a whole, he was satisfied that he should not allow development which would have the effect of prejudicing the open space proposal.

ALUMINIUM ADVISORY SERVICE

One copy of a new manual, "Aluminium for Architects," is to be supplied free to every architectural practice in the United Kingdom as part of a new drive by The British Aluminium Co., Ltd., Norfolk House, St. James's Square, London, S.W.1, to make planners aware of uses and applications of aluminium.

In addition the company is to set up an organisation to maintain the manuals up to date as new developments occur and to cater for inquiries from architects and aluminium users in the building industry. The inquiry service will be staffed by specialists and will be organised on a regional basis. All practices are planned to have received their manuals by the end of October.

Men and Movements

THEIR new northern area sales manager, announce J. I. Case Co., Ltd., is **Mr. T. D. A. Caunt**. Mr. Caunt, who was previously with Fred Myers, Ltd., and Messrs. Leverton, will be based at the newly opened sales office at Stanningley, Leeds.



T. CAUNT

Mr. W. N. Collins, M.I.Mech.E., has resigned as assistant managing director of F. Perkins, Ltd., and from the company's board and the boards of its subsidiary companies. Mr. Collins reaches the retirement age within the group early in 1962. His connection with the group will not be entirely severed immediately.

Due to pressure of other business commitments, **Sir Peter Roberts**, Bart., M.A., M.P., has resigned from the board of Staveley Industries, Ltd.

The successful candidate for the 1961-62 Aveling-Barford one year scholarship to Birmingham University post Graduate School of Highway Engineering (the value of which was recently increased from £300 to £500) is **Mr. Colin K. Atkins**, of Geelong, Victoria, Australia, who will commence his studies in October. Mr. Atkins is a supervising engineer for the Victoria Country Roads Board and holds the Diploma in Civil Engineering from the Gordon Institute of Technology. He joined the Country Roads Board in 1955 as assistant to the divisional engineer from Melbourne City Council, where he had been traffic engineer.

Two assistants to the sales director of the Holman Group, **Mr. J. L. Ritchie**, have been appointed to deal with Holman Climax products and with Goodyear pumps. **Mr. Ralph Johns**, who becomes assistant for Holman Climax products, joined Holman Bros. in 1926. He was appointed sales office manager in 1942. **Mr. Malcolm Abbott** is the assistant for Goodyear pumps. He joined Goodyear Pumps, Ltd., in 1958, and since February has been technical sales liaison between the Camborne Works and Goodyear's sales offices. Mr. Johns is succeeded by **Mr. J. Holman**, previously assistant sales office manager, who joined Holman Bros. in 1929.



R. JOHNS



M. ABBOTT



J. HOLMAN

Mr. J. K. Vivian, a director of Williams and Williams, Ltd., has accepted an invitation to join the technical committee of the Modular Society.

James Halstead, Ltd., have opened a London sales office at 44 Pall Mall, S.W.1, and the London sales manager is **Mr. G. P. Ross**. The company have also appointed **Mr. T. L. Harvey** as technical sales representative for North Wales and Shropshire.

Chamberlain Plant, Ltd., have announced the opening of a new depot to serve the north-eastern area of the United Kingdom. Operating this depot at Scotter Road, Scunthorpe, will be **Mr. James E. Gilbert**, who has served with a number of contracting and civil engineering companies and who will advise on any projects involving plant.



J. E. GILBERT

Newly elected to the board of Brymbo Steel Works, Ltd., a branch of G.K.N. Steel Co., Ltd., is **Mr. Mark Pearce**.

Mr. A. W. Edlin, A.C.I.S., has been appointed to the board of Firestone Tyre and Rubber Co., Ltd. He has held the position of company secretary since 1930, and has been with the company 41 years.

After 56 years in the wallpaper trade, **Mr. G. H. Walmsley** has retired from the board of Wall Paper Manufacturers, Ltd.

C. H. Johnson (Machinery), Ltd., have appointed **Mr. Iain Ashcroft** as Scottish area manager for both the contractors' plant division and materials handling division. Mr. Ashcroft, who has wide experience of contractors' plant, will also be responsible for technical sales representation on the mobile conveyor products of the materials handling division.



I. ASHCROFT

Mr. Leslie Luke, a senior executive of Stenners of Tiverton, Ltd., recently returned from a 30,000-mile tour of Africa. His itinerary included visits to South Africa, Rhodesia, Ghana, Nigeria and Sierra Leone.

Mr. H. C. H. Matthews, B.Sc., A.M.I.E.E., has been appointed a technical director of Pantak, Ltd.

MUNICIPAL

Mr. William Webley, western district engineer for Manchester Corporation waterworks, has been appointed deputy engineer-manager to Montgomeryshire Water Board. Mr. Webley has been with the Manchester water department since 1936.

After 25 years as surveyor and engineer to Coalville (Leics) U.D.C., **Mr. R. H. Smith** has retired.

Mr. F. H. Tomes, chief engineer to Lincolnshire River Board, will retire next February.

SAND AND GRAVEL PRODUCTION 1959-1960

THE fourth in a series of leaflets prepared by the Ministry of Works giving statistics of sand and gravel production from 1954-1959 in each of the regions and service areas dealt with in the Report of the Advisory Committee on Sand and Gravel has been published (H.M.S.O. price 1s. 3d.). The leaflet gives statistics of production for 1960 and includes for the first time estimates of the future level of demand for sand and gravel which on present trends is likely to be reached over the next five to 10 years.

In many regions and service areas demand and production have already exceeded the expectations of the Advisory Committee by a substantial margin; the Ministry of Works' estimates suggest that demand will continue to increase in the next 10 years. Consequently in many areas land for sand and gravel working will be needed more quickly than the Committee envisaged, if the level of production already reached is to be maintained and the expected increase in demand met. Local planning authorities have been asked by the Ministry of Works to bear this in mind as their development plans fall due for review.

The Ministry of Works' leaflet refers to the impossibility of forecasting exactly in which service areas building and civil engineering will take place. It may well be the case that these activities will take place in an area less well endowed than adjoining service areas with available mineral resources. In such circumstances neighbouring authorities may find it helpful to consult together, the Ministry state.

INDUSTRIAL WATER AND EFFLUENTS

New Group Formed

A new subject group of the Society of Chemical Industry is being formed under the chairmanship of Dr. B. A. Southgate, director of the Water Pollution Research Laboratory of D.S.I.R.

The Group, to be known as the Industrial Water and Effluents Group, will be interested in all aspects of the science and technology of treatment, conservation and economic use of water and of the treatment and disposal of effluents. A programme of meetings is being arranged for the 1961/62 session, the first of which will take place on November 1, at the Royal Institution, 21 Albemarle Street, London, W.1.

Anyone interested in becoming a member of the Group is invited to write to the General Secretary, Society of Chemical Industry, 14 Belgrave Square, S.W.1, or to the Industrial Water and Effluents Group Secretary—J. L. Hewson, Imperial Chemical House, Millbank, S.W.1, from whom further particulars and membership application forms may be obtained.

The article on the River Crossens Improvement Scheme, which starts on the opposite page, is continued on page 620. Other articles to be found following "Current Construction Activities" include Derbyshire Trunk Road Improvement (p.619); Talking of Safety by "Dragee" (p.620); Pre-stressed Bridge Incorporates New Standard Section Beams (p.621); Land Acquisition—Call by Local Authorities for More Government Help (p.622); Aluminium Floating Boom at Tummel Garry Project (p.623); Trade and Company News (p.624); Re-opening of Turnhouse Airport (p.626); Colorado River Storage Project—Work at Glen Canyon Dam (p.627); For the Diary (p.629).

35,000 ACRES DRAINED BY RIVER CROSSENS IMPROVEMENT SCHEME

A N area of about 35,000 acres has been relieved from the danger of flooding by the £1 million River Crossens land drainage scheme which was officially opened recently by Princess Alexandra.

This extensive acreage comprises rich agricultural land near Southport in Lancashire and lies within the areas of the Lancashire River Board and the River Crossens Drainage Board. The scheme for improvement of its drainage was prepared on behalf of the boards by C. H. Dobbie and Partners, consulting engineers, Westminster.

The need for the scheme arose from two main factors: 1. The major part of the low-lying areas has a peat surface which gradually shrinks with cultivation and drainage; 2. An ever-increasing deposit of marine silt on the foreshore has raised the level of the estuary channel.

The River Crossens catchment area forms roughly a semi-circle of five miles radius centred on Southport, which is itself situated on a coastal strip of sand dunes and alluvium. Landwards from this coastal strip is a low-lying basin, formerly a lake or mere. The natural outlet from this lake was at Crossens, and the present drainage channels, most of which are artificial, converge to this point.

Most of the land surface is below the level of the highest tides, and doubtless formerly the sea occasionally broke into the freshwater lake. Rapid run-off from the high ground at Ormskirk and from the built-up area of Southport and Birkdale aggravate the drainage problems.

Since the first channel was cut at the end of the seventeenth century, the principal stumbling block to satisfactory drainage has been the mud and silt of Liverpool Bay which has consistently choked the outfall channel across the salttings, and in fact the accumulation is now such that the foreshore from high to low water is some four miles across.

Originally the whole area was drained by gravity to the Crossens Channel at Crossens, and this arrangement worked until approximately the middle of the last century, when steam pumps were installed at Crossens, since when the central area of about 7,000 acres has been drained by means of pumping, although the two areas on both sides of the central area—one known as Three Pools and the other as the Sluice—were still being discharged by gravity. The total area of both "wings" is about 16,000 acres.

As a result of these factors the area has been subjected to severe and frequent flooding, and it was decided that the whole area of about 23,000 acres should be pumped, although provision for some gravity discharge has been retained. The total area of benefit, however, is about 28,000 acres.

The scheme comprises three main sections:

1. The cutting of a new channel about 4½ miles long, considerably improving the drainage of the central area which has been pumped for more than 100 years.
2. Widening and deepening of the main channels in the Three Pools system and those of the sluice system on both "wings."
3. Construction of a new pumping station to house pumps capable of draining both "wings" and the central area.

The work in sections 1 and 2 has necessitated the reconstruction of numerous existing bridges, construction of many new bridges, and the reconstruction of under-drains which drained the low-lying lands to the central system under the main rivers on both "wings."

Work began in February, 1958, when the Norwest Construction Co. Ltd., was awarded the first contract which involved the construction of the pumping station—third largest of its type in Britain—the diversion of a road, and improvements to the drainage systems. The value of the contract was about £700,000.

The second contract for the improvement of tributary streams, costing about £80,000, was carried out by Costelloe and Kemple, Ltd., while a third contract for the building of three entirely new reinforced concrete culverts under the Southport Wigan Railway Line, began in January and has now been completed by the Norwest Construction Co.

Difficult Conditions

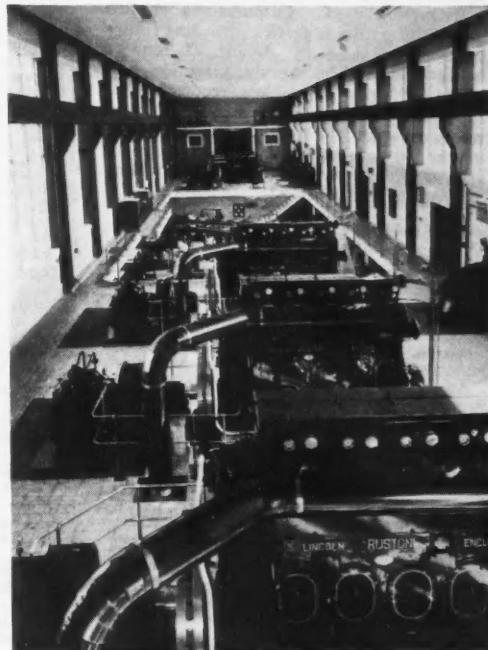
One of the biggest difficulties in the work was the nature of the ground, with about 12in. of top soil, then sand or soft wet peat or a peculiar sticky blue silty material locally known as "Blue Billy" or "Scotch." In many places there is a combination of all these materials in various layers which generally overlay red marl and Boulder clay. The land is most unstable, particularly when exposed to the wet, and made conditions for civil engineering work very bad. There were several occasions when machines became bogged down and tractors had to be used to haul them out. Widening and deepening of existing channels meant the excavation and disposal of 1m. cu. yd. of earth, mainly silt and peat, most of which was spread on farm fields by bulldozers to a depth of 4in.

In some cases tributary streams draining the middle area had to pass under the main channels of the other two higher level systems through pipes. This was usually done by thrust boring a steel pipe from an adjacent pit but in several places this technique could not be used because of bad ground conditions and the river had to be diverted or dammed while

excavation for the new pipe was dug in the conventional way.

The thrust boring process was particularly suitable when a 140ft. long, 3ft. diameter pipe had to be placed under the main Preston Road, and the work was completed in days without inconvenience to road users.

Altogether 32 miles of channel were excavated, 35 new bridges built, eight new culverts, 25 bridges underpinned and nine underdrains constructed. The capacity of



Interior view of the station

channels was increased to 4in. run off in 24 hours with 3ft. freeboard compared with the previous capacity of 3in. run off per 24 hours with the water topping the banks.

Plant used by Norwest on their contracts included: Three N.C.K. 4yd. excavators; two Smiths 4yd. excavators; three Ruston 19RBs; three Caterpillar bulldozers; three Ingersoll-Rand compressors; three Rex concrete mixers; various piling plant; one derrick; and subsidiary plant.

(Concluded on page 620)



Rear elevation of the new pumping station

Current Constructional Activities

PROJECTS

CONTRACTS

AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING (See also Housing Schemes)

Aireborough, Yorks. — West Riding C.C. recommended to approve, for submission to the M.E., scheme for first phase improvements to the Aireborough Hawksworth C.E. (Aided) School. Estimated cost £13,634.

Alston, Cumb. — S. Talbot proposes rebuilding Summit Cafe at Hartsdale, Alston.

Ammanford, Carmar. — Saxon, Smith and Partners, 2 Stanley Street, Chester, are the architects for the proposed extensions at the Technical College, for Co. E.C.

Armagh. — W. A. Johnston, 38 Abbey Street, Armagh, is the architect for extensions at the City Hospital, consisting of a new maternity wing, nurses' home, out-patients' department and boiler house, for Hospitals Authority.

Banstead, Surrey. — U.D.C. recommended to consider a provisional plan for the erection of a community hall. Estimated cost £60,000.

Barrow-in-Furness, Lancs. — Furness Water Board to appoint an architect to submit plans etc., for construction of a new depot and office premises.

Barry, Glam. — Ravenseft Properties, Ltd., propose the erection of 35 shops, new town hall and three-deck car park in Holton Road. Architects for the scheme are H. A. Halpern and Partners and quantity surveyor is Raymond J. Playle, both of 58-60 Cannon Street, London, E.C.4. Estimated cost £400,000.

Berwick, Northumb. — It is proposed to convert premises at Infirmary Square, to provide accommodation for nurses at Berwick Infirmary, for Newcastle Regional Hospital Board. Estimated cost £7,500.

Bradford, Yorks. — City Council recommended to apply for sanction to borrow £8,481 for improvements at St. Joseph's R.C. Boys' School; to approve the erection of public conveniences at Brackenhil Park, estimated cost £1,650; to fix swing doors at two entrances at James Street Fish Market, £825; to approve supplementary estimate of £2,260 for improvement of toilet accommodation in the Town Hall and £800 for rebuilding part of boundary wall at St. Bede's R.C. Grammar School.

Bradford, Yorks. — Leeds Regional Hospital Board have approved for submission to the Ministry scheme for new nose, throat and eye unit at Royal Infirmary, estimated cost £507,579.

Leeds Regional Hospital Board have approved scheme for third operating theatre and resuscitation unit at St. Luke's Hospital, £45,000.

Brookmans Park, Herts. — C.C. recommended to approve, subject to Ministry approval, scheme for extensions to the J.M.I. school. Estimated cost £11,000.

Camberley, Surrey. — War Office have appointed Sir Hugh Casson, architect, 35 Thurloe Place, London, S.W.7, to prepare plans for the redesigning of the Royal Military Academy at Sandhurst.

Cardiff. — City Council recommended to submit to Ministry for approval sketch plans for the proposed new home for the aged and infirm at Caerau. Estimated cost £68,000.

Carlisle, Cumb. — City Council recommended to prepare schemes for the erection of four garages at Parkside, 10 at Briar Bank and 14 at Dene Crescent, by direct labour.

Buckland and Haywood, architects, Norwich Union Chambers, Congreve Street, Birmingham, 3. are preparing plans for the 1st and 2nd instalments of the proposed extensions to the Technical College, for City Council.

Chester. — Tenders are to be invited in October for the erection of a new science block at rear of 8, 10 and 12 Stanley Place, for the Queens School. Plans by A. C. Bennett, of Douglas Minshull and Co., architects, 6

Abbey Square, Chester, and quantity surveyors are Todd and Ledson, Old Hall Street, Liverpool. Estimated cost £40,000.

Crawley, Sussex. — West Sussex C.C. have included in the 1961-62 programme, stage 2 of the Crawley College of Further Education and have applied to Ministry for permission to include stage 3 in the 1963-64 building programme. Estimated cost £366,000 and £177,000 respectively.

Darfield, Yorks. — West Riding C.C. recommended to approve the erection of a clinic during financial year 1961-62. Estimated cost £8,100.

Doncaster, Yorks. — Taylor, Knight and Co., Brooksmoor House, Grove Road, Moorgate, Rotherham, are the architects for erection of a new public house at Edlington for William Stones, Ltd., and not James Totty and Co., as stated in our issue of March 30.

Doncaster, Yorks. — Town Planning and Estates Committee to consider plans for development incorporating a 24-lane bowling alley, shops, offices, flats and car park in the Sunny Bar area for industrial and investment Services, Ltd., 129 Finsbury Pavement, London, E.C.2, estimated cost £100,000.

Driffield, Yorks. — East Riding E.C. have approved, subject to M.E. approval, scheme for extension at Hutton Cranswick School at a cost of £35,500. Other projects approved are a new £21,000 three-class school for Lockington, including a headmaster's house; and conversion of the former infants' school premises for Driffield Youth Centre, £6,700.

Edinburgh. — Dean of Guild Court have approved the following: Erection of a restaurant at the corner of Charlotte Square and George Street for the Roxburgh Hotel, Ltd., 38 Charlotte Square, Edinburgh, 2, estimated cost £80,000; improvements to the Lodge, 64 Canongate, Edinburgh, 8, for the Directors of Queensbury House, £18,840.

Elland, Yorks. — West Riding C.C. recommended to approve scheme for adaptations at Ellen Royde for use as child welfare and dental clinic. Estimated cost £7,025.

Enfield, Middx. — C.C. recommended to approve, subject to Ministry approval, improvements to two farmworkers' cottages at South Barvin Farm. Estimated cost £1,200.

Falkirk, Stirlings. — Dean of Guild Court have approved the erection of shop premises at Callander Riggs near its junction with High Street for Falkirk Development Co., Ltd., 140 West George Street, Glasgow. Estimated cost for phase 1, £178,000, and for reconstruction of Falkirk High School, Rennie Street, for Stirling C.C., £237,528.

Farnham, Surrey. — U.D.C. to proceed with scheme for the erection of approximately 20 garages to serve council houses at Beaufort Road.

Gillingham, Kent. — Tenders are to be invited in six months for the erection of a bakery. Architects for the scheme are H. A. Halpern and Partners, and the quantity surveyor is Raymond J. Playle, both of 58-60 Cannon Street, London, E.C.4. Estimated cost £70,000-£100,000.

Glasgow. — City Council propose to erect youth centres at Castlemilk and Cadder housing estates. Estimated cost £10,000 each.

Greenford, Middx. — C.C. recommended to approve plans for the alterations and extensions of Ravenor Park Clinic. Estimated cost £26,100.

Harrowden, Herts. — C.C. recommended to approve, subject to Ministry approval, extensions to the Manland Secondary Modern School. Estimated cost £20,000.

C.C. recommended to approve the provision of a county road laboratory building in Mount Pleasant Lane depot. Estimated cost £6,400.

Hawick, Roxburghs. — Dean of Guild Court have approved plans for extension to factory for Pringle of Scotland, Ltd., Rodono Mills, Hawick. Estimated cost £17,000.

Hemel Hempstead, Herts. — C.C. recommended to approve, subject to Ministry approval, schemes for the erection of a new infants' school at Highfield, estimated cost £53,780; adaptations to The Lockers for use by Dacorum College of Further Education, £2,100.

Hertfordshire. — C.C. recommended to approve, subject to Ministry approval, extensions to Wall Hall Training College. Estimated cost £30,000.

Hexham, Northumb. — It is proposed to convert The Cinema, Haydon Bridge, into club premises for the Haydonian Working Men's Club and Institute, Ltd. The architect is

J. M. Angus, 3 Gallowgate, Newcastle upon Tyne. Detailed plans have still to be approved.

Heywood, Lancs. — Housing Committee to sell land fronting upon Tower Street and St. James's Street to Duttons' Blackburn Brewery, Ltd., Salford, Blackburn, for the new Seven Stars Hotel development.

Hitchin, Herts. — C.C. recommended to approve, subject to Ministry approval, adaptations to Walworth House, for use by the college of further education, estimated cost £1,270; extension and adaptations to Offley Place, for use as a course and conference centre, £6,000.

Huddersfield, Yorks. — Sheffield Regional Hospital Board have approved, subject to Ministry approval scheme for residential accommodation at General Hospital. Estimated cost £226,000.

Kenton, Middx. — C.C. recommended to approve the conversion of the former fire station at The Mall for Ambulance Service Headquarters. Estimated cost £22,255.

Kingston-upon-Thames, Surrey. — B.C. recommended to approve in principle the provision of a further 25 garages and hard standing sites at Kingsnypoint Park estate.

Kirkby, Lancs. — U.D.C. to instruct the architect to proceed with the preparation of plans and estimates in respect of the first phase of the office block in the Civic Centre. Estimated cost £150,000.

Leeds. — Tenders are to be invited from selected contractors in September for the erection of the Merrion Centre at Leeds for Town Centre Securities, Ltd. The centre will include 14-storey and five-storey office blocks, 97 shops, a dance hall, a 100-room motel and a multi-storey garage for 1,000 vehicles. Gillinson and Barnett, 8 Queen Square, Leeds, 2, are the architects, and the consultants include Wakeman, Trower and Partners, quantity surveyors, St. Paul's House, St. Paul's Street, Leeds, 1; W. V. Zinn and Associates, consulting engineers, 3 Chepstow Street, Manchester, 1; Kenneth B. Firth, services engineer, 25 Albion Place, Leeds, 1. Estimated cost £2m.

Leeds. — City Council recommended to approve in principle the erection of a maternity and child welfare clinic at Seacourt. Estimated cost £24,000; to authorise improvement works to 18 properties in the East Park Road improvement area 1 and six properties in the East Park Road improvement area 3 and the making good of dilapidations at the premises at a total estimated cost of £13,012; to approve for submission to the Ministry sketch plans for alterations and extensions to Springvale hotel.

Ministry have granted planning permission for erection of a boys' remand home on land off Skelton Lane, Whinmoor.

City Council recommended to approve sketch plans and invite tenders for erection of three blocks of six shops (including garages) with maisonettes above at Ebor Gardens (two blocks) and Charing Cross estate (one block). Pearce Bottomley, architects, 5 New York Road, Leeds, 2, and Wakeman, Trower and Partners, quantity surveyors, St. Pauls House, St. Pauls Street, Leeds, 1.

City Council recommended to approve in principle, subject to Ministry approval, application submitted from the Court of Deacons of the Presbyterian Church, Cavendish Road, for the allocation of a site for the erection of a new church, church hall and ancillary buildings on land off Headingly Lane at present allocated for open space in the development plan.

Corporation Town Planning and Improvements Committee considering plans for erection of a wholesale warehouse and offices in Westgate, for Yorkshire Factoring Co., Ltd., 72 Park Lane.

Leigh, Lancs. — E.C.'s building programme for 1961-62 provides for new workshop and alterations at Technical College.

Letchworth, Herts. — C.C. recommended to approve, subject to Ministry approval, the erection of two additional classrooms at Letchworth Grange Infants' School, estimated cost £10,500; extension to the civil defence training and social centre at Geron Road, £2,600.

Lincoln. — Bills of quantities will be sent shortly to selected contractors for them to tender for extensions to the Diocesan Training College. Watkins, Coombes and Partners, 191 High Street, Lincoln, are the architects, and the consultants are G. N. Haden and Sons (Lincoln), Ltd; Midland Bank Chambers, Lincoln, heating; and C. Mackenzie, Jarvis

and Partners, 34 Victoria Street, London, S.W.1, electrical. Estimated cost £120,000.

Littlehampton, Sussex.—B.C. to prepare plans for the erection of public conveniences, showers and washing and changing accommodation at Southfields Recreation ground.

Liverpool.—City Council to lease land fronting Peatwood Avenue, Kirkby, to Kirkby Spastic Fellowship for erection of a centre.

London.—Middlesex C.C. recommended to approve scheme for the adaptations and redecorations at 10 Great George Street, S.W.1. Estimated cost £2,960.

Maidstone, Kent.—B.C. recommended to approve in principle scheme for the erection of 16 lock-up shops with flats over at the junction of Wallis Avenue East and Penfold Road, Park Wood estate; approve scheme for the improvement of cottages 3 and 4 at Aylesford Sewage Disposal Works, estimated cost £1,683.

Manchester.—Tenders to be invited from selected contractors for extensions to the King David Primary School for the Managers.

Margate, Kent.—B.C. recommended to submit to C.C. for approval plans for the erection of 14 garages at Arlington Gardens; apply for sanction to borrow £5,975 for the provision of a new store and workshop at Hartsdown Park.

B.C. recommended to approve, subject to conditions, plans for the erection of a two-storey information centre at the Casino site, for Bernard Sunley Investments (Margate), Ltd.; alterations and additions to form 17 extra bedrooms, etc., at Norfolk House Hotel, 39 Sea Road, Westgate, for Philip Gold.

Markyate, Herts.—C.C. recommended to approve the erection of a drill tower and the extension of the drill yard at the fire station. Estimated cost £5,750.

Meltham, Yorks.—West Riding C.C. recommended to ask the M.E. to agree to a two-class instalment for the new Meltham C.E. (Controlled) Primary School be added to the appropriate major building programme at an estimated cost of £9,750.

Middlesex.—C.C. recommended to include in the 1961-62 programme, subject to Home Office approval, scheme for a fire station at: Hornsey, Priory Road/Park Avenue South; Northolt, Petts Hill; Chiswick, Wellesley Road; and Tottenham, St. Loy's Road.

C.C. recommended to approve, subject to grant aid, the provision of a covered yard and milking parlour on holding 65 at Denham Estate. Estimated cost £1,600.

Newburn, Northumb.—The Goodyear Tyre and Rubber Co. are planning the erection of warehouse and offices on the Newburn trading estate. The architects are Derek Avery and Associates, Longwood House, Failand, Bristol, 8.

Newbury, Berks.—B.C. recommended to prepare bills of quantities and invite tenders for the erection of a block of four flats, six garages and eight stores in the garden of 106 Craven Road.

Newcastle upon Tyne.—A contractor is expected to be decided in the near future for the proposed Gosforth East R.C. Primary School. The architects are P. J. Stienlet and Son, 4 Queen Square, Newcastle upon Tyne.

The Convent of the Good Shepherd, Gosforth, are seeking permission to erect a secondary school at Benton Park Road. The scheme is still in very early stages. The architect is D. Brown, 10 Lambton Road, Jesmond, Newcastle upon Tyne.

Outline plans have been prepared for erection of warehouse and offices at Blandford Street, for A. Dodds. The architects are M. and H. Goffat, 26 Mosley Street, Newcastle upon Tyne; alterations and additions are proposed to the Newton Park Hotel, Benton Road, to plans by Marshall and Tweedy, 36 Blackett Street, Newcastle; new club premises costing £20,000 are proposed for the Northumberland County Cricket Club, Osborne Avenue. No contracts have been arranged. The architects are L. J. Couves and Partners, Grainger Chambers, Hood Street, Newcastle; a filling station is planned at Byker Bank, for C. H. Shepherd and Sons. The architects are Crackett, Burns Dick and McKellar, 21 Ellison Place, Newcastle upon Tyne; C. S. Errington, 46 Grainger Street, Newcastle, is the architect for alterations to provide offices and showrooms at Leazes Park Road, for J. Ford (Properties), Ltd.; Additions are planned to the Duke of Wellington public house, High Bridge. The architects are Arthur and Kirkup, 13 Swinburne Street, Gateshead; S. J. Stephenson, Gillis and Partners, Saville Chambers, North Street, Newcastle upon Tyne are preparing plans for van shed, tea store and offices, Algernon Road, for Rington's Tea Co.; a contract will be arranged within a few weeks for new offices and showrooms at Blenheim Street, for Roland Burgess, Ltd., Pilgrim Street, Newcastle. Plans by H. Wiles, the firm's architect.

R. Turley and Associates, 46 Jesmond Road, Newcastle, appointed architects by the E.C. for the proposed Slatyford Lane Secondary School.

New Malden, Surrey.—Tenders are to be invited in about six months for the erection of an 11-storey block of offices, with shops at ground floor level and basement car park. H. A. Halpern and Partners, 58-60 Cannon Street, London, E.C.4, are the architects, and Kelly and Partners, London, W.1, are the quantity surveyors for the scheme. Estimated cost £400,000-£500,000.

Northumberland.—C.C. have approved final plans for the proposed Gosforth County Grammar School, and the Lemington Claremont Secondary School. Estimated cost £246,000 and £214,000 respectively.

C.C. are to remodel Cambo Primary School. Estimated cost £15,310.

Ormskirk, Lancs.—Co. E.C. have approved a site in Oriel Drive, Aintree, for the erection of a combined school clinic and child welfare centre.

Ossett, Yorks.—B.C. recommended to apply for sanction to borrow £3,000 for provision of 30 garages on Corporation sites.

Oxhey, Herts.—C.C. recommended to approve, subject to Ministry approval, the erection of an instalment of the infants' replacement school. Estimated cost £23,230.

Pembroke.—F. D. Williamson of Frederick W. Williamson and Associates, architects, Oakwood Chambers, Station Road, Port Talbot, has prepared and submitted to R.D.C. for approval, outline application for the construction of a holiday centre at Freshwater East to include 400 living units and motel, etc., for Govan Davies. The scheme is phased to be completed in five years.

Pontypridd, Glam.—Tenders are to be invited in about 12 months' time for the erection of shopping precinct of 30 shops, to be built on a raft over a car park, in the town centre, for Centrovicinal Properties. Architects for the scheme are H. A. Halpern and Partners, quantity surveyor is Raymond J. Playle, both of 58-60 Cannon Street, London, E.C.4, and consulting engineers are H. L. Waterman and Partners, 84 Eccleston Square, London, S.W.1. Estimated cost £330,000.

Pudsey, Yorks.—B.C. is to ask a London architect to submit a preliminary survey on the developments of a new civic centre at Dawson's Corner. Building of a 20-bedroom residential hotel and two churches on the site approved in principle.

Rochdale, Lancs.—Robert Riley (Holdings), Ltd., Mere Lane, propose the erection of a new modern factory.

Royston, Herts.—C.C. recommended to approve, subject to Ministry approval, the erection of a second instalment of the infants' school. Estimated cost £24,900.

Salford, Lancs.—Planning permission granted for extensions to Carmelite Convent, Vine Street, for Reverend Mother Prioress, and for the rebuilding of the "Railway Inn" Liverpool Street, Oldfield Road for Wilsons Brewery, Ltd., Monsall Road Manchester, 10.

Sheffield.—Moorwood Vulcan, Ltd., Harlesdon Street, propose the erection of a new factory on the site of Moorwood's present factory. Estimated cost £250,000.

Shepperton, Middx.—C.C. recommended to approve the erection of an old people's home at Laleham Road. Estimated cost £117,900.

Staincliffe, Yorks.—West Riding C.C. recommended to approve scheme for conversion of a portion of the former casual block at Beech Towers into a dining room and kitchen with servery. Estimated cost £2,930.

Stevenage, Herts.—C.C. recommended to approve, subject to Ministry approval, extensions to the Alleyne's Grammar School. Estimated cost £19,950.

Stockton-on-Tees, Dur.—Corporation Plans and Town Planning Committee have approved the erection of a new hotel at Dover Road for J. W. Cameron and Co., Ltd., Hartlepools.

Tynemouth, Northumb.—Plans have been approved for erecting a concert room and extending the bar at the R.A.O.B. Club, King Street, North Shields. The architect is J. M. Angus, 3 Gallowgate, Newcastle upon Tyne.

Works additions are proposed at Norham Road, North Shields, for Ronson Products, Ltd., Leatherhead, Surrey. No contracts let. The architects are Tasker and Partners, 25 New Bridge Street, Newcastle upon Tyne; William Stockdale, 73 Howard Street, North Shields, has prepared plans for alterations to Percy Main Social Club; Hall Sections, Ltd., Norham Road, North Shields, are to buy land at Norham Road for proposed works developments; plans have been submitted to the M. of E. for improvements to the toilets at Percy St. John C. of E. School. The architect is W. Stockdale, 73 Howard Street, North Shields; Falconer and Prentice, 17a Northumberland Square, North Shields, have been appointed quantity surveyors by the E.C. for modernising the toilets at the Prince Edward and Spring Gardens Primary Schools.

Wakefield, Yorks.—City Council preparing plans for erection of new fire station on the Brunswick Street extension; Town Planning Committee have approved the erection of a three-storey block of offices at the junction of

Southgate and George Street, for Fell Construction Co., Ltd., 20-30 Lawfield Lane.

City Council have approved in principle scheme prepared by Michael Egan and Partners, 297 Oxford Street, London, W.1, in conjunction with the City Engineer for erection of a new market hall in Westmorland Street.

Watford, Herts.—C.C. recommended to approve, subject to Ministry approval, improvements to the youth training centre at Derby Road. Estimated cost £2,000.

Wath-upon-Dearne, Yorks.—West Riding C.C. recommended to approve, subject to conditions, the erection of a clinic in Church Street.

West Riding.—C.C. recommended to approve the erection of clinics of a prefabricated type at Baildon, Outwood, Thurncroft and Royston during year 1961-62. Estimated cost £24,000.

Wimbledon, Middx.—C.C. recommended to approve the extensions to the dining-room, etc., at Grangemuir Nursery. Estimated cost £1,150.

Workington, Cumb.—B.C. recommended to approve scheme for the erection of public convenience, bus shelter and offices at Oxford Street, during 1961-62.

Worthing, Sussex.—M.E. have approved scheme for the erection of the high school for boys. Estimated cost £220,632.

B.C. recommended to appoint L. H. Fewster and Gamble, 5 Liverpool Gardens, Worthing, as architects for the erection of a pavilion at Palatine Road; approve sketch plans for extensions to Selden Junior School.

DEMOLITION

Mexborough, Yorks.—West Riding C.C. recommended to approve expenditure of £2,000 in demolishing premises 10, 12, 14, 16, 28, 30 and 67 Bank Street, and making good the wall of 90 Bank Street.

ELECTRICAL

Hastings, Sussex.—B.C. recommended to appoint Barlow, Leslie and Coombes, 5 Catherine Place, London, S.W.1, as electrical consultants for the Hastings Grammar School scheme.

FENCING

Liverpool.—City Council recommended to apply for sanction to borrow £2,850 for supply and erection of fencing at Lower Breck recreation ground.

GAS AND WATER SUPPLY

Barrow-in-Furness, Lancs.—Furness Water Board to apply to Ministry for approval to sink borehole in the Vale of Nightshade, near Furness Abbey; to apply for sanction to borrow £261,000 for construction of the proposed Thorncleif Road reservoir; to prepare schemes for improved water supplies for Arred Foot and Backbarrow, for submission to the Ministry, estimated cost £16,500, and to submit similar with a request for sanction to borrow £6,000 for an improved supply to 35 properties at Backbarrow.

Furness Water Board to apply for sanction to borrow £11,132 for the Satterthwaite water supply scheme.

Carlisle, Cumb.—City Council recommended to prepare for submission to Ministry for approval and loan sanction, scheme for improving the water supplies in the Cumwhinton area. Estimated cost £19,000.

Mansfield, Notts.—B.C. recommended to apply for sanction to borrow £970 for water main extension to Debdale Lane housing estate.

Perthshire.—Blairgowrie, Rattray and District Water Board propose to install micro-straining equipment at Burnhead Reservoir. Estimated cost £8,450.

Perth.—Scottish Home Department have approved a scheme for providing a new water supply system for City Council. Estimated cost £455,000.

Tynemouth, Northumb.—Corporation Water Department are to lay a 15in. water main from Chilton Grange Reservoir to Rake Lane. Estimated cost £4,200.

Worthing, Sussex.—B.C. recommended to invite tenders for the construction of a 9in. diameter main from Marine Parade along Warwick Road and Brighton Road to Brougham Road. Estimated cost £14,140.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Blyth, Northumb.—B.C. is considering the construction of a reinforced concrete wall to prevent coast erosion. The scheme may cost about £500,000, and it is suggested that it should be carried out in three instalments, with the aid of a Government grant.

Hove, Sussex.—B.C. recommended to submit to Ministry for grant aid, scheme for the reconstruction of the timber groyne to the east of Hove Street. Estimated cost £5,000.

HEATING AND VENTILATING

Ealing, Middx.—C.C. recommended to approve the installation of hot water facilities at the Northfields Secondary Girls' School. Estimated cost £970.

Maidstone, Kent.—B.C. have instructed Harding and McDermott, consultant heating engineers, 17 Doughty Street, London, W.C.1, to prepare scheme for the provision of central heating at the Central Library.

Thorne, Yorks.—West Riding C.C. recommended to approve installation of an oil-fired heating system at Boys' Secondary School. Estimated cost £3,850.

HOUSING SCHEMES

Batley, Yorks.—West Riding C.C. recommended to approve scheme submitted by the B.C. for erection of 14 units of accommodation in Church Road and Lea View on the Brown Hill estate for elderly people.

Biggleswade, Beds.—R.D.C. recommended to consider scheme for the erection of 50 houses at Arlesey or Stotfold.

Campbeltown, Argyll.—B.C. propose to provide accommodation for about 900 people. The scheme will include five-storey flats, semi-detached houses and two-apartment houses for old people. Estimated cost £500,000.

Castleford, Yorks.—West Riding C.C. recommended to approve scheme submitted by the B.C. for erection of 16 units of accommodation in Thirlmere Drive; 22 units in Herbert Street, Fulford Street, Temple Street and Love Lane, on the Half Acres estate; 15 units in Westwood Road and Aketon Road; and 16 units in Lumley Mount and College Grove for elderly people.

Castle Ward, Northumb.—Plans have been approved for the erection of 24 houses near Edgehill, Darnas Hall, for A. C. Luff, Wellfield Lane, Westerhope, Newcastle upon Tyne.

Clacton, Essex.—T. W. Wexler, 133 Park Street, London, W.1, has submitted to U.D.C. outline application for the erection of an 18-storey block of flats with restaurant and bar.

Epping, Essex.—C.C. recommended to approve the erection of two staff houses at Epping House School. Estimated cost £6,000.

Hexham, Northumb.—W. Oliver, Ltd., 25 Simpson Street, Newcastle upon Tyne, are to erect 30 detached houses at Leazes Lane, Hexham.

Hove, Sussex.—B.C. recommended to approve the erection of 52 two-bedroom flats at Hardwick Road.

Kingston-upon-Thames, Surrey.—C.C. recommended to approve B.C.'s scheme for the demolition of six houses at Elm Road and the erection on site of six two-bedroom flats in one three-storey block.

Leeds.—City Council recommended to approve layout plan and negotiate with George Wimpey and Co., Ltd., for the erection of 24 four-storey maisonettes and 24 garages at Moor Grange.

Malden and Coombe, Surrey.—C.C. recommended to approve B.C.'s scheme for the erection of 22 houses and 10 flats at the former prefabricated site at Yew Tree Close, Malden Road.

Margate, Kent.—B.C. recommended to invite tenders from selected contractors for the construction of two tower blocks of flats at Millmead Road site, stage 2.

B.C. recommended to approve, subject to conditions, plans for the erection of a five-storey block of 30 flats with garages at Danehurst, Sea Road, for Oscar Garry and Partners, 32 Holmwood Gardens, Finchley, N.3; nine-storey block of 27 flats with garages at site adjoining Northumberland Hotel, Palm Bay Avenue, for Alderney Construction (1954), Ltd., 434 Poole Road, Westbourne, Hants.

Newbury, Berks.—B.C. recommended to prepare bills of quantities and invite tenders for the erection of eight aged persons' dwellings at Gloucester Road.

Newcastle upon Tyne.—City Council are to carry out a housing and shopping development at Fawdon. The scheme includes the erection of an eight-storey block of flats providing 72 housing units, three multiple stores and six shops and 24 lock-up garages. The architects are Waring and Netts, Lansdowne Terrace, Gosforth, Newcastle. Estimated cost £233,000.

M. Grady, Ltd., Broadwood Road, Newcastle, propose the erection of 24 flats and garages at Waterworks Road, Newcastle.

Stockton-on-Tees, Dur.—Corporation Plans and Town Planning Committee have approved outline application submitted by S. H. Curry, Richmond Road, for development of land for housing on the west side of Hartburn Avenue.

Surbiton, Surrey.—B.C. recommended to invite tenders from selected contractors for phase IV of the Middleton estate redevelopment scheme.

Sutton and Cheam, Surrey.—Co. Planning Committee have approved B.C.'s plans for the erection of five three-bedroom houses, six two-bedroom flats and two one-bedroom flats with seven garages and seven parking places at Spring Close Lane, Cheam.

Swinton, Yorks.—West Riding C.C. recommended to approve scheme submitted by the U.D.C. for erection of 40 units of accommodation in St. John's Road and St. Mary's Crescent for elderly people.

Tynemouth, Northumb.—R. Sleightholme, Ltd., St. Oswin's Place, Tynemouth, are seeking permission to erect houses on four acres of agricultural land near the Moorhouse estate, and the scheme has been referred to the Ministry for a decision.

Walton, Essex.—Stewart Ferguson and Partners, architectes, 13 Priory Avenue, London, W.4, have prepared plans for the erection of a 25-storey block of 75 flats at Hall Lane, for Denbrick Investments, Ltd. Estimated cost £350,000.

Wakefield, Yorks.—City Engineer has been authorised to negotiate a tender for erection of an 11-storey block of flats between Park Street and William Street in the Primrose Hill area; City Council have approved the erection of two further blocks of three-storey flats on the north side of Monk Street.

Wandsworth, B.C. recommended to appoint architects for dwellings at various sites, as follows: 18 at Shoreham Street—Philip Goodhew, A.R.I.B.A., 54 Warwick Square, London, W.1; 28 at Balaam New Road and 42 at Summerley Street—Diamond, Redfern and Partners, 92 George Street, W.1; 12 at Clapham Park Road and 24 at Oakhill—J. Hewitt Mitchell, A.R.I.B.A., 140 Streatham Hill, S.W.16; 31 at Atney Road—G. A. W. Brandreth, A.R.I.B.A., 41 Russell Square, W.C.1; eight at Stourhouse Street and eight at Cheverton Road—Richard S. Nickson, M.A., F.R.I.B.A., 5 Mill Street, Hanover Square, W.1; 12 at Manville Road—Michael Lyell, A.R.I.B.A., 16 Yeomans Row, Brompton Road, London, S.W.3.

Whitstable, Kent.—U.D.C. to apply for outline planning permission for housing development at Seasalter.

Worthing, Sussex.—B.C. recommended to approve, subject to conditions, plans submitted by Fitzroy Robinson and Partners, architects, 50 Norfolk Square, Brighton, 1, for the erection of 28 terrace houses at plots 1-28 Clarendon Nurseries, Haynes Road, and land between 15 and 19, and 37-43 Guildford Road, for Cox Public Works, Ltd.; outline plans submitted by The Southern Drawing Office, 120 Portland Road, Worthing, for the erection of a three-storey block of 33 bed-sitting rooms at the junction of Downview Road and Mill Road, for Heavon (Holdings), Ltd.

York.—Shepherd Homes of York are to erect a model village called Woodthorpe in the Moor Lane area. The village is on a 100-acre site and will consist of nearly 1,000 buildings. There will be 900 houses, two churches, a primary school with a playing field, shops, a library and open park areas. Surgeries for doctors and dentists may also be provided. Plans have been submitted for first stage of building to start in the autumn.

RIVER AND FLOOD PREVENTION WORKS

Exeter, Devon.—City Council recommended to approve scheme for the prevention of flooding at Exwick. Estimated cost £3,360.

Saffron Walden, Essex.—Great Ouse River Board to re-invite tenders, during November, for consideration during January, 1962, for the construction of the spillway in connection with the Great Chesterford Mill Improvement Scheme.

ROADS, BRIDGES AND SITE WORKS

Barnes, Surrey.—B.C. have approved in principle scheme for the construction of an arterial road through the borough from east to west.

Bedfordshire.—Ministry have approved C.C.'s plans for the improvement of Poynters Road, Dunstable, Heath Road, Leighton Buzzard, Mount Pleasant, Aspley Guise and Water End, Maulden.

Highways Committee have approved in principle for inclusion in the county development plan, the line of the eastern by-pass Amphill, Flitwick and Wrenstrom.

Berkshire.—M.T. propose the construction of a roundabout on the Bath Road (A.4) at the Pound Lane, Sonning junction, during 1962/63.

Bradford, Yorks.—City Council recommended to apply for sanction to borrow £56,314 for reconstruction and resurfacing of Canal Road from Bolton Lane to City boundary at Dumb Mills and Bolton Road from Queen's Road to Bolton Junction.

Chester.—City Council recommended to prepare plans for the making-up of the Queen's Park group of streets.

Ealing, Middx.—B.C. recommended to invite tenders for the resurfacing of Hanger Lane and Gunnersbury Avenue; submit to C.C. proposed scheme for the provision of a steel or a pre-cast concrete footbridge at Horsenden Lane, with a view to include in next year's programme. Estimated cost £1,550 or £1,750.

Enfield, Middx.—C.C. recommended to approve, subject to grant aid, the provision of a bus bay at Enfield Road, A.110. Estimated cost £1,000.

Harpden, Herts.—C.C. recommended to approve scheme for the improvement of the county road portion of Coldharbour Lane and the construction of a bridge over the River Lea. Estimated cost £6,550.

Hatfield, Herts.—C.C. recommended to approve, subject to Ministry approval, scheme for the construction of a footbridge over the railway in Dixons Hill Road, C.56, Welham Green. Estimated cost £4,500.

Hendon, Middx.—C.C. recommended to approve, subject to grant aid, scheme for the widening of Page Street (part), Mill Hill. Estimated cost £19,500.

Hornsey, Middx.—C.C. recommended to approve, subject to grant aid, the construction of two bus lay-bys along the western side of Muswell Hill Road. Estimated cost £7,000.

Laleham, Middx.—C.C. recommended to approve, subject to grant aid, scheme for the reconstruction and widening of Staines Road. Estimated cost £31,530.

Leeds.—City Council recommended to authorise expenditure of £1,500 for drainage and tarmacadam surfacing of yard at Monkbridge garage and yard.

Littlehampton, Sussex.—U.D.C. recommended to approve plans for the extension of the car park at Mewsbrook. Estimated cost £22,650.

Liverpool.—City Council recommended to apply for sanction to borrow £6,040 for reconstruction of the carriageways in Dundee Street (Great Howard Street to Waterloo Road) and in Neptune Street (Great Howard Street to Waterloo Road), and the paving of footways in front of new buildings in Tatlock Street, Blenheim Street and Roscommon Street.

Maidenhead, Berks.—B.C. recommended to prepare detailed plans for the widening and improvement of Highfield Lane.

Mansfield, Notts.—B.C. recommended to approve plans for the making-up of Fairholme Drive (part) and Chester Street (part).

Osgoldcross, Yorks.—West Riding C.C. recommended to approve, subject to conditions, the strengthening and relining of the Darrington and Whitley (class 3) County Road in the Rural District.

Ossett, Yorks.—B.C. recommended to apply for sanction to borrow £4,000 for extension of Towngate, including road works and diversion of gas, water, electric and sewerage services.

Rickmansworth, Herts.—C.C. recommended to approve, subject to grant aid, scheme for the improvement of Baldwin's Lane (part). C.74. Estimated cost £4,935.

St. Albans, Herts.—C.C. recommended to approve, subject to grant aid, following improvement schemes at Tippendell Lane (part), St. Stephens, C.80, estimated cost £22,000; King Harry Lane (part), C.98, £34,650; and construction of a footway between How Wood and Smug Oak Green in Park Street Lane, St. Stephen, £5,000.

Southall, Middx.—C.C. recommended to approve, subject to grant aid, the widening of a further section of Tentelow Lane. Estimated cost £28,600.

Stammore, Middx.—C.C. recommended to approve, subject to grant aid, the construction of bus bay at The Broadway. Estimated cost £1,400.

Tadcaster, Yorks.—West Riding C.C. recommended to approve, subject to conditions, expenditure of £5,847 for construction of 1.49 miles of new road through the old Acasta Malbis Airfield, to form part of the Acasta-Selby and Acasta Malbis unclassified road in the Rural District.

Ware, Herts.—C.C. recommended to approve, subject to Ministry approval, schemes for the improvement of Widford Road, Hudson, B.180, and Stansted Abbotts-Sawmill Road, A.414. Estimated cost £7,000 and £6,500 respectively.

Watford, Herts.—C.C. recommended to approve, subject to grant aid, schemes for the provision of a footway at Watford Road, Radlett, B.462, between Hills Hill Lane and Willow Way, estimated cost £7,700; improving the visibility in High Street, Bedmond, C.75, on the bend near Breakspear Farm, £6,500.

Welwyn Garden City, Herts.—C.C. recommended to approve the diversion of Cole Green Lane between Ludwick and Woodhall. Estimated cost £8,000.

West Sussex.—C.C. hope to commence work by the late autumn on the scheme for the prevention of the coast road slip between Worthing and Brighton, at Southwick. Estimated cost £215,000.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Angus.—Special Districts Committee have approved in principle a drainage scheme for Monikie which includes treatment works and sewers for 240 houses. Estimated cost £27,000.

Bradford, Yorks.—City Council recommended to approve installation of a dilution plant and a water softening plant in the new sulphuric acid plant at Esborth sewage disposal works. Estimated cost £11,898.

Bury, Lancs.—B.C. to spend £6,250 on preliminary alterations to main sewage disposal works.

Ealing, Middx.—B.C. recommended to invite tenders from selected contractors for the provision of a surface water sewer at Church Road, Hanwell.

Exeter, Devon.—City Council recommended to apply for sanction to borrow £3,200 for the construction of a surface water sewer at Bovemoor's Lane.

Ministry have approved in principle stage 1 of the reconstruction of the sewage purification work at Countess Wear, for City Council.

Hastings, Sussex.—B.C. recommended to approve the construction of a surface water sewer at Broomgrove Road. Estimated cost £1,500.

Midhurst, Sussex.—R.D.C. are preparing plans for the inclusion of Iping in the Steyning scheme. Estimated cost £7,800.

Worthing, Sussex.—B.C. recommended to apply for sanction to borrow £39,700 for the construction of a sewer from Eton Road/Tarring Road junction to Oxford Road.

STREET LIGHTING

Hastings, Sussex.—B.C. recommended to approve the provision of street lighting at Old Roar Farm estate. Estimated cost £2,720.

CONTRACTS

*Full details of the Contracts marked * will be found in our Advertisement Columns.*

BUILDING AND DECORATING

(See also Housing Schemes)

Aberdeen.—Various trades for alterations and additions at Inverallochy School, for C.C.: (1) Excavator, brick and drainage, etc., works; (2) reinforced concrete work; (3) structural steel work; (4) carpenter and joiner work; (5) roof copper work; (6) plumber work; (7) lath, plaster, tile and terrazzo works; (8) glazier work; (9) electrical work; (10) heating work; (11) painter work. Contractors may tender for all trades or individual trades. Applications to Geo. Bennett Mitchell and Son, architects, 1 West Craibstone Street, Bon-Accord Square, Aberdeen, by August 7.

Barnstaple, Devon.—Exterior re-painting of the undermentioned properties, for R.D.C.: (1) Woodpark, Berryarbor—4 houses; (2) The Square, Bishops Tawton; River View, Bishop's Tawton; Cobbaton Cottages, Cobbaton—11; (3) part of Pill Gardens, Braunton—31; (4) Orchard Villas, Croyde; Rectory Close, Heanton—12; (5) Crossway Cottages, Landkey; Orchard Cottages, Landkey—8; (6) Ash Park, Parracombe; West View, Martinhoe—12; (7) Hilltop Cottages, Shirwell; Cross Park, Shirwell; South View, Puxford—16; (8) Hilltop, Fremington Agricultural Cottages, Fremington; Corner Cottages, Fremington; The Orchards, Lovacott—18; (9) part of Oaklea Crescent, Fremington; part of Beechfield Road, Fremington—29. Order for the work to commence will be given to successful contractors on or before September 4, and all work must be completed by November 25. Documents from the Housing Manager, The Red House, Castle Street, Barnstaple. Tenders by August 31.

Bath.—Erection of hotel and flatlets at Green Park, for City Council. Apply by August 12. Deposit £2 2s.

Bournemouth, Hants.—Erection of squash courts in Meyrick Park, for B.C. Documents from the Borough Architect's Office (Room 106), Town Hall, Bournemouth. Deposit £2 2s. Tenders by August 22.

Bournemouth, Hants.—Subcontract work of copper roofing in connection with new squash courts at Meyrick Park, for B.C. Applications to the Borough Architect, Room 106, Town Hall, Bournemouth, by August 25.

Bromley, Kent.—Construction of Norman Park pavilion, for B.C. Tenders by August 14.

Cardiff.—Alterations at Scoper Road transport depot, for City Council. Deposit £2 2s. Tenders by August 25.

Carlisle, Cumb.—Erection of Newlaithes Junior School, Morton, which is a new eight-classroom school in traditional construction, area approximately 14,050 sq. ft. Documents from J. Telford Hart, quantity surveyor, Natproban Chambers, Victoria Viaduct, Carlisle. Tenders by August 22.

Carmarthen.—Erection of the following, for R.D.C.: (1) Five garages and site works at Heol-y-Gaer estate, Clynderwen; and (2) six garages and site works, together with the con-

struction of a 10ft. pathway at Brongwendrae Carway. Documents from G. G. Thomas, surveyor, R.D.C. Offices, Spilman Street, Carmarthen. Deposit £1. Tenders by August 16.

Carmarthenshire.—Alterations and additions to the former boys' grammar school, Marble Hall Road, Llanelli, comprising first installation Llanelli Technical College, for Co. E.C. Applications to W. T. Lloyd, county architect, County Hall, Carmarthen, by August 5. Deposit £5 5s., tenders by September 9.

Clitheroe, Lancs.—Painting of 142 15ft. steel lighting columns and six wall brackets within the borough, for B.C. Documents from Borough Engineer, Town Hall, Clitheroe. Deposit £2. Tenders by August 19.

Colne, Lancs.—Following for B.C.—External painting: (1) Ruskin Avenue (226-88), 32 houses; (2) Ruskin Avenue (29-83), 28 houses; (3) Tennyson Road, 44 houses; (4) Keighley Avenue, 40 houses; (5) The Crescent, 32 houses, 10 bungalows; (6) Cook House Road, 18 bungalows. Internal decoration: (1) Glenroy Avenue Community Centre; (2) Primet Hill Community Centre. Documents from the Borough Engineer, Town Hall, Colne. Tenders by August 8.

Down.—Erection of a new child health clinic and library at Glen Road, Brantel, for County Health Committee. Documents from the County Planning Officer, English Street, Downpatrick, or W. H. Stephens and Sons, 13 Donegall Square North, Belfast, 1. Deposit £3. Tenders by August 17.

Down.—Erection of an extension of the Divisional Office and Clinic at Pound Lane, Downpatrick, for County Health Committee. Documents from the County Planning Officer, English Street, Downpatrick, or G. McNeil, chartered surveyor, 29 Wellington Place, Belfast, 1. Deposit £3. Tenders by August 17.

East Sussex.—Erection of a two-storey bedroom and office wing, a small lecture hall, external work and alterations at Stafford House, Keymer, Hassocks, for C.C. Applications to the County Architect, County Hall, Lewes, by August 11.

Elland, Yorks.—Erection of public conveniences at Town Hall Square for U.D.C. Documents from F. R. Birkhead, engineer and surveyor, Council Offices, Elland. Tenders by Aug. 14.

Enniskillen, Fermanagh.—Erection and completion of the new physics laboratory extension and reconstruction of out-buildings at the Portora Royal School, for Board of Governors. Architect, Robert M'Kinstry, 58 Rugby Road, Belfast, 7. Documents from Vincent B. Evans, quantity surveyor, Provincial Bank Chambers, 3 Bradbury Place, Belfast, 7. Deposit £5 5s. Tenders by August 18.

Essex.—Erection of Leaden Roding fire station, Weeley fire station, for C.C. Estimated cost £7,200 each. Applications to H. Conolly, county architect, County Hall, Chelmsford, by August 5.

Falsworth, Lancs.—Erection of Robert Sidlow Public Library for U.D.C., which has a floor area of 4,350 sq. ft. and is semi-prefabricated in construction, with brick gables and wing walls, lightweight roof and precast concrete flooring. The contract which includes drainage, garden works and dwarf stone walling, is to be completed by 30th April, 1962. Documents from John Walton, clerk of the Council, Town Hall, Oldham Road, Falsworth, near Manchester. Deposit £5 5s. Tenders by August 23.

Hampshire.—Erection, in traditional construction, of a dental clinic incorporating dental room, recovery, waiting and dark rooms, together with toilets, and having a total floor area of approximately 750 sq. ft., at Alton Secondary School, for C.C. Applications to the County Architect, The Castle, Winchester, by August 10.

Hampshire.—Erection of a two-storey hostel in brick and tile construction, and foundations and other works in connection with an attached single-storey training centre in pre-fabricated timber units, at Basingstoke, for C.C. Applications to the County Architect, The Castle, Winchester, by August 11. Deposit £2 2s.

Hampshire.—Following for C.C.: Bishops Waltham—erection of a county road depot, comprising two stores in brick construction, and new foundations and cladding to an existing store; Broughton—erection of a house in brick with tile construction; Andover—erection of an office in brick with timber cladding, and two brick-built stores. Applications to the County Architect, The Castle, Winchester, by Aug. 12.

Hampshire.—Erection of Alderman Quilley County Secondary School, Easteleigh, for C.C. work comprises 21 classrooms, halls, gymnasium and a library, etc., and having a floor area of approximately 40,000 sq. ft. Applications to the County Architect, The Castle, Winchester, by August 18. Deposit £2 2s.

Haslemere, Surrey.—Improvement works at 5, 7 and 9 Sieklemill Cottages, Sturt Road, for U.D.C. The works include the provision of

domestic hot water supply, bathrooms, food stores, internal decorations, together with ancillary works. Documents from the Engineer and Surveyor, Council Offices, Haslemere. Tenders by August 15.

Hereford.—Conversion of part of north dining room to form television room at Hillside Hostel, for City Council. Documents from the City Architect, Town Hall, Hereford. Deposit £1 1s. Tenders by August 28.

Iford, Essex.—Alterations to Fairlop Secondary Girls' School, for B.C. Documents from the Borough Engineer, Town Hall, Iford, upon written application. Deposit £2 2s. Tenders by August 22.

Lancashire.—Conversion of the existing gas heating installation to solid fuel system at Lancaster Greaves County Secondary School for C.C. Work comprises erection of a stone-faced chimney stack approximately 50ft. high from ground level; alterations to the boiler-house and attendance upon the heating engineer. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Aug. 8.

Leeds.—Following works for (A) Group Hospital Management Committee: Exterior and interior painting; roofing repairs; pointing of buildings; general building repairs, plumbing, plastering, tiling, etc.; road repairs; heating installations; electrical installations; wall washing; flooring repairs and renovations. Application forms from J. Folkard, secretary to the committee, Administrative Offices, St. James's Hospital, Leeds, 9, returnable by August 12.

Leicester.—Extensions at Desford Boys' School, Desford, for City Council. Documents from J. H. Lloyd Owen, city architect, Halford House, Charles Street, Leicester. Deposit £1, cheques payable to City Treasurer. Tenders by August 29.

Leicestershire.—Lift and part III accommodation at Hastings House County Home, Loughborough, for C.C. Applications to County Architect, 123 London Road, Leicester, by August 10. Deposit £2 2s, Tenders by September 1.

Liverpool.—Strengthening floors, St. Saviour's C.E. School, Upper Canning Street, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by September 6.

Liverpool.—Exterior painting and internal decoration of properties, at Vyrnwy Aqueduct, for City Council. Documents from Water Engineer, 55 Dale Street, Liverpool, 2. Tenders by September 4.

Ludlow, Salop.—General repairs, improvements, drainage and additions to 5 Mill Cottages, Seifton, for R.D.C. Documents from the Council's Engineer and Surveyor, Stone House, Corve Street, Ludlow. Tenders by September 4.

Luton, Beds.—Following for B.C.: (a) Repairs to concrete surfaces, grammar school, tenders by August 10; (b) supply and delivery of sanitary fittings, clinics at Gooseberry Hill and Leagrave High Street, tenders by August 16. Documents from Borough Architect, Town Hall, Luton.

Malvern, Worcs.—External renovation and decoration of Portland House, Church Street, for Severn River Board. Documents from the Engineer to the Board, Portland House. Deposit £2 2s. Tenders by August 16.

Mitcham.—Renewal of five hipped lantern lights and re-roofing of the lending section of the central library, London Road, including ancillary building works, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Mitcham, Tenders by August 12.

Newbury, Berks.—Improvements to swimming pool, for B.C., including the construction of new changing rooms, public conveniences, refreshment kiosk, caretaker's flat, new fencing, paving and other minor works in connection therewith. Documents from Sutton, Griffin and Sweetnam, architects, 87, Northbrook Street, Newbury, on and from August 10. Tenders by August 31.

Newcastle upon Tyne.—Interior and exterior painting of Slatyford transport depot, transport and electricity undertaking, for City Council. Applications to the City Estate and Property Surveyor, Town Hall, Newcastle upon Tyne, 1, by August 5. Tenders by August 21.

North Armagh.—Lurgan and Portadown Hospital—alterations and additions for Hospital Management Committee; Building work, alteration to X-ray department, operating theatres, nurses' home, and conversion of fever hospital to nurses' training unit, also sundry ancillary works; electrical work, complete work of electric wiring necessitated by the above building work; plumbing, heating and ventilation, installation of a new low-pressure hot water heating system, hot and cold water services, and ventilating plant, in connection with the above building work. Documents for building work from Thos. T. Houston and Partners, architects, 26 College Gardens, Belfast, 9, and for the electrical work and the

the plumbing, heating and ventilating work, from the offices of McCandless and Barton, consulting engineers, 6 Murray Street, Belfast, 1. Deposit £5 5s. each. Tenders by September 1.

Northumberland.—Internal redecoration of Bebside County Primary School, Kitty Brewster, Blyth, for C.C. Applications to the County Architect, County Architect's Department, 30-32 Great North Road, Newcastle upon Tyne, 2, by August 5.

Portsmouth.—Modernisation of four flats at St. Faiths Road, (Landport block 41-44), for City Council. Applications to Director of Housing, 1 Clarence Parade, Southsea, by August 11. Deposit £1.

Ramsey, Hunts.—Erection of a block of nine garages at Westfield, for U.D.C. Documents from the Surveyor, Council Offices, 3 Bury Road, Ramsey. Tenders by August 14.

Romford, Essex.—Chelmsford Avenue, Adventure Playground—play hut and toilets, for B.C., including the provision and erection of a sectional concrete building measuring approximately 36ft. x 18ft. The building is required to have a flat roof, and the contract will include for foundation work, drainage, plumbing, etc. Documents from Borough Engineer and Surveyor, Town Hall, Romford. Deposit £2 2s. cheque. Tenders by August 22.

Rothwell, Northants.—Improvement of 34 houses, for U.D.C., including the provision of bathrooms and the installation of baths, wash-hand basins, internal W.C.s, sink units and hot water supplies. Applications to the Surveyor, Manor House, Rothwell. Tenders by August 26.

Selkirk.—Erection of New Galashiels Academy (approximately 88,000 sq. ft. floor area), for C.C. The trades are: (1) All works except electrical works; (2) electrical work. Applications to J. and J. Hall, Ladhope Vale, Galashiels, by August 19.

Skelmersdale, Lancs.—Improvements to town hall, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Skelmersdale. Deposit £2 2s. Tenders by August 19.

Stafford.—External painting of the main building, admission hospital and annexes, at St. George's Hospital. Documents from the Secretary. Tenders by August 18.

Staffordshire.—Erection of a fire station at Bridge Street, Tipton, for C.C. Applications to T. H. Evans, clerk of the County Council, County Buildings, Stafford, by August 28. Deposit £2 2s. Tenders by September 26.

Sunderland, Dur.—Erection of boundary walls at the following for B.C.: (a) 300 houses and (b) 342 houses at Thorney Close estate, and the supply and fixing of the requisite gates. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Deposit £2 2s. Tenders by August 21.

Tewkesbury, Glos.—External painting works to four properties in the borough for B.C. Documents from E. W. Penn, town clerk, Municipal Offices, Oldbury Road, Tewkesbury. Tenders by Sept. 2.

Todmorden, Yorks.—Work in all trades for the supply and fixing of all tiled ranges, fire back boilers, cylinders and immersion heaters to pre-war houses for B.C. The work can be separated into four sections, and the applicants may tender for all or any of the sections. Documents from Borough Engineer, Municipal Offices, Todmorden. Deposit £2. Tenders by Aug. 11.

Truro, Corn.—Repair and external painting of one or more groups of the following houses, for R.D.C.: (a) 1-12 Killacourt, Carnon Downs; (b) 1-14 Elm Grove, Feock; (c) 1-6 Carne View, Gwennap; (d) 1-8 Arnhem Villas, Flushing. Applications to the Housing Manager's Office, Rural Council Hall, River Street, Truro. Tenders by August 8.

Washington, Dur.—Replacement of fireplaces in 44 houses, for U.D.C. Documents from the Engineer and Surveyor at Council Chambers, Washington. Tenders by September 11.

West Riding.—Alterations to buildings and adaptations to form a covered yard at Peach Tree Farm, Minskip, Boroughbridge, for C.C. Documents from County Land Agent, County Hall, Wakefield. Tenders by Sept. 7.

West Ridings.—Part internal redecoration of the home for the aged, Hillworth Lodge, Keighley, for C.C. Applications to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by August 21.

West Sussex.—First instalment of new primary school at Rumboldswyke, Chichester (job 6127), for C.C. Quantities will be issued on or about October 16. Applications to the County Architect, County Hall, Chichester, by August 10.

Widnes, Lancs.—Building works (A) and (B), for B.C. Tenders by August 28.

Worcestershire.—Erection of a day special school at Kidderminster for C.C. Applications to L. C. Lomas, county architect, 14 Castle Street, Worcester, by Aug. 11.

Worksop, Notts.—Repainting of approximately 100 houses and bungalows principally at Carlton-in-Lindrick and Harworth for

R.D.C. Documents from the Council's Surveyor, 222 Carlton Road, Worksop. Tenders by Aug. 11.

Worksop, Notts.—Warden's house, aged persons' meeting room, etc., for B.C. Deposit £3 3s. Tenders by September 1.

CLOTHING AND TEXTILES

Huddersfield, Yorks.—Supply of following for B.C.: Drivers' and conductors' uniforms; drivers' and conductors' caps; inspectors' uniforms; inspectors' caps. Applications to the Passenger Transport Manager, John William Street, Huddersfield. Tenders by August 25.

Lincoln.—Supply of uniform and protective clothing for the City Council. Documents from J. Harper Smith, clerk, Town Hall, Lincoln. Tenders by September 9.

Manchester.—Supply of the following for City Council: (a) Macintoshes, etc.; (b) overalls (drill and serge), nurses' dresses; (c) white collars (men's), black and navy blue ties. Documents from the General Manager, Corporation Transport Department, 55 Piccadilly, Manchester, 1. Tenders by Aug. 16.

DEMOLITION

Bradford, Yorks.—Demolition of acid plant for City Council. Tenders by September 1.

Caterham and Warlingham, Surrey.—Demolition of properties, for U.D.C. Tenders by September 5.

Heywood, Lancs.—Demolition of 105-123 Manchester Street, for B.C. The work includes complete demolition, filling cellars, removal of materials and clearing of the sites. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Heywood. Deposit £2 2s. Tenders by September 9.

Mexborough, Yorks.—Demolition of all the existing buildings and the dismantling and complete clearance of all installations, etc., at 500-unit miners' hostel, Adwick Road, together with the removal of all debris, for U.D.C. Documents from the Architect and Surveyor, Council Offices, Adwick Road, Mexborough. Deposit £2 2s. Tenders by August 26.

Tottenham, Middx.—Demolition works, for B.C. Deposit £2. Tenders by August 21.

ELECTRICAL

Bournemouth, Hants.—Improvements to existing electrical installation at Municipal College, Department of Commerce, Princes Hotel, Knyveton Road, Boscombe, for B.C. Documents from the Borough Architect's Office (Room 106), Town Hall, Bournemouth. Deposit £1 1s. Tenders by August 22.

Cardiff.—Installation of passenger lift, for City Council. Deposit £2 2s. Tenders by August 29.

Down.—Electrical (heating and lighting) installation in the new clinic and library at Branfil, for County Health Committee. Documents from McCandless and Barton, consulting engineers, 6 Murray Street, Belfast, 1. Deposit £2. Tenders by August 17.

Larne, Antrim.—Installation of lighting, heating and cooking circuits in four bungalows at Aughagash, for R.D.C. Documents from T. F. W. Nelson, clerk, Prince's Gardens, Larne. Tenders by August 8.

FENCING

Aberdeen.—Supply and erection of fencing and gates at: (a) Northfield South housing scheme (586 houses); and (b) Cummings Park (B.I.S.F.) housing scheme (250 houses), for City Council. Applications in writing to the City Architect, 11 Broad Street, Aberdeen. Tenders by August 11.

Bristol.—Supply and erection of 47 lin. yd. of railings at St. James' Square for City Council. Documents from the City Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1. Tenders by August 21.

Devonshire.—Red Cross Hill, Kennford, trunk road, A.38, fencing, for C.C., including: (a) 1,884 lin. yd. of coloured concrete post, plastic-covered chain link and dropper strained wire fencing; (b) 310 lin. yd. of continuous bar mild steel fencing at Red Cross Hill, Kennford, about five miles south of Exeter, on A.38. Documents from the County Surveyor, Coaver, Topsham Road, Exeter. Tenders by August 15.

Leicestershire.—Erection of snow fencing, for C.C. Deposit £5. Tenders by August 24.

GAS AND WATER SUPPLY

Aled, Denbighs.—Bylchau and District water supply scheme, contract 2A7, for R.D.C., including excavation for, supplying, laying and jointing of approximately 3,000yd. of 4in. diameter asbestos-cement pipes, together with valves, specials and incidental works. Documents from Sandford Fawcett and Partners, the council's consulting engineers, 53 Victoria Street, London, S.W.1. Deposit £5 5s. Plans also seen at the office of the Engineer and Surveyor, 34 Water Street, Rhyl. Tenders by September 4.

Amesbury, Wilts.—Boreholes, for R.D.C. Deposit £3 3s. Tenders by August 28.

Armagh and Dungannon.—Supply and delivery to the Board's store near Armagh of 24 water meters for Waterworks Joint Board. Documents from Munce and Kennedy, consulting engineers, 133 University Street, Belfast, 7. Tenders by Aug. 22.

Bognor Regis, Sussex.—Waterworks undertaking, for U.D.C. Deposit £2 2s. Tenders by August 28.

Cemaes, Cards.—Brynerberian augmentation water scheme, for R.D.C., including supplying and laying approximately 2,400 yd. of 7in. diameter spun-iron pipes and 300yd. of 6in. diameter asbestos-cement pipes and fittings, the construction of stream intake, water treatment plant and pumping station, river weir dams, and all necessary fencing and roadworks. Documents from the offices of R.D.C., Grosvenor Hill, Cardigan, or J. Owen Parry, Lewis and Partners, consulting engineers, Arcade Chambers, Ammanford. Deposit £5. cheque payable to R.D.C. Tenders by August 18.

Chichester, Sussex.—Replacement of pumping machinery, etc., at Mill Lane pumping station, for City Council. Deposit £2 2s. Tenders by August 26.

East Lothian.—Laying and jointing of a 9in. diameter steel pipeline for a distance of approximately 5,800 lin. yd., and a 6in. diameter asbestos-cement pipeline for a distance of approximately 3,330 lin. yd. for Water Board. Documents from G. H. Hill and Sons (Manchester), civil engineers, 51 Mosley Street, Manchester. Deposit £5 5s. Plans also seen at the Offices of the Board in Haddington, by appointment. Tenders by September 1.

Guildford, Surrey.—Boreholes at Netley Mill, for Guildford, Godalming and District Water Board. Deposit £2 2s. Tenders by September 4.

Pontypool, Mon.—Llanhennock water scheme, for R.D.C. Deposit £3 3s. Tenders by August 24.

South Derbyshire.—Construction of reinforced concrete service reservoir, for Water Board. Apply by August 11.

Taunton, Som.—Provision of a piped water supply to Fulford Cottage, Parks Cottages and Parsonage Cottages, Kingston St. Mary, for R.D.C. Documents from the Surveyor, Mary Street House, Taunton. Tenders by August 15.

West Dorset.—Water main, contract 15, for Water Board. Deposit £2 2s. Tenders by September 1.

Wigtownshire.—Water supply, Penwhirn Burn scheme, second phase—12in. diameter pipe from Knock Fell tank to Eldrig tank, contract TM/3, for C.C., including: (a) Supplying, laying and testing about 8 miles of 12in. diameter spun-iron piping; and (b) construction of a reinforced concrete tank of 150,000 gallons capacity, together with the execution of relative works, the whole of the work to be covered by one contract. Applications to Crouch and Hogg, engineers, 18 Woodside Crescent, Glasgow, C.3. Deposit £5. Arrangements for inspection of the drawings, visit to site and the date for lodging tenders will be advised.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Somerset.—Work in connection with Wick St. Lawrence sea wall, scheme 3, four miles N.E. of Weston-super-Mare, for Somerset River Board. Work comprises: (1) Construction of access road on top of the existing sea bank 10ft. wide, 1,000ft. long; (2) construction of new toe wall 1,000ft. long of stone pitching grouted with hot filled bitumen; (3) repitching areas of the sea wall face with block stone; (4) grouting with hot filled bitumen 8,450 sq. yd. of block stone pitching on the sea face. Documents from E. L. Kelting, engineer to the board, Divisional Engineer's Office, Stonewell Lane, Congresbury, near Bristol. Tenders by September 6.

HEATING AND VENTILATING

Barking, Essex.—Supply of boilers, for B.C. Tenders by September 4.

Barking, Essex.—Removal of boilers, for B.C. Tenders by September 4.

Hoddesdon, Herts.—Replacement of the existing boilers by the installation of a Whitehall boiler and the supply and fitting of an oil heating installation at council offices, for U.D.C. Documents from Leonard G. Johnes, clerk of the Council, Council Offices, Hoddesdon. Tenders by August 10.

Market Bosworth, Leics.—Hot water supplies to 154 pre-war council houses, at Ibsstock, Ratby, Bagworth and Barlestoke, for R.D.C. The work will be divided into 13 sections and must be carried out within a period of six months. Documents from the Surveyor, Council Offices, Market Bosworth. Tenders by September 19.

Strabane, Tyrone.—L.p.h.w. heating, hot, cold and drinking water service installations at head post office, Strabane, for Ministry of Finance. Documents from Room 103, Law

Courts Building, Belfast 1. Tenders by August 21.

Swansea.—Heating, hot and cold water services at Morfydd House (Day) Special School, Morriston, for B.C. Applications to the Borough Architect, The Guildhall, Swansea, by August 11. Deposit £2.

Wexford, Eire.—Heating and hot water installation in the convent extension at the County Hospital, Wexford, for C.C. Documents from Nicholas Mathews and Co., consulting engineers, 42 Fitzwilliam Place, Dublin. Deposit £3 3s. Tenders by August 12.

HOUSING SCHEMES

Abingdon, Berks.—Erection of two shops, two one-bedroom flats, four two-bedroom flats, at Kennington estate, for R.D.C. Documents from the Council's Surveyor, 60 Bath Street, Abingdon. Deposit £3. Tenders by August 18.

Belfast.—Thirty-four flats and maisonettes at Mount Vernon estate extension, for City Council. Documents from City Architect's Department (Housing Section), 97 Townsend Street, Belfast, 13. Deposit £5, cheques payable to Corporation. Tenders by August 9.

Boldon, Dur.—Sixty-eight three-bedroomed houses on Mill Farm housing site, Whitburn, for U.D.C. Documents from J. T. Edmondson, surveyor, Council Offices, East Boldon. Deposit £5. Tenders by September 5.

Brighton, Sussex.—Twenty-two old people's bungalows on sites at Moulsecombe and Lower Bevendean, for B.C. Documents from the Borough Surveyor, Engineer and Planning Officer, 26-30 King's Road, Brighton. Deposit £2 2s. Tenders by September 5.

Buncrana, Donegal.—Twelve houses, together with development and other works at Ardaraavan for U.D.C. Documents from T. G. Keogh, clerk, U.D.C. Offices, Upper Main Street, Buncrana. Deposit £10 10s. Tenders by August 21.

Bury St. Edmunds, Suffolk.—Ten flats at Rosemary Road, for B.C. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Deposit £2 2s. Tenders by August 18.

Carmarthen.—Twenty-one Homeville traditional houses on the Waunigo housing estate, stage one, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Cambrian Place, Carmarthen. Deposit £2 2s, cheques payable to B.C. Tenders by August 28.

Cirencester, Glos.—Erection of the following traditional dwellings: Two detached bungalows, two semi-detached bungalows, eight semi-detached houses at North Cerney for R.D.C. Documents from Pyle and Saint, architects, Thomas Street House, Cirencester. Deposit £2 2s. Tenders by Aug. 13.

Clare, Suffolk.—Following for R.D.C.: Four houses, three garages and sewage disposal plant, Storeyard site, Chilton Street; four houses, seven bungalows, two flats and seven garages, Westfield estate; and four houses, one bungalow and four garages, Stradishall. Applications to the Engineer and Surveyor, Stonehall, Clare, by August 12.

Coleraine, Londonderry.—Six houses at Maybush, Garvagh, for R.D.C. Documents from W. and M. Given, architects, 1 Waterside, Coleraine, or T. J. Dudley Lewis, quantity surveyor, New Row, Coleraine. Deposit £3 3s. Tenders by August 19.

Cumbernauld, Renfrews.—Four-hundred and forty-three dwellings at Carbrain 3 and 4 development, for Development Corporation. Dwellings comprise: 192 two-storey terrace houses; 38 three-storey terrace houses; 41 flats over garages; 126 flats and maisonettes in seven blocks each containing four flats and 14 maisonettes; 46 flats and maisonettes in one block containing eight flats, 38 maisonettes and one shop store, together with 231 attached and detached garages, one shop, two sub-stations, tenants' rooms, pavings, drainage and certain site works. Applications to the Chief Architect and Planning Officer, Cumbernauld House, Cumbernauld, Glasgow, by August 11.

Durham.—Twenty-six dwellings at Grape Lane, for City Council. Deposit £2 2s.

East Lothian.—Various trades, including fencing, for 10 traditional type houses at Ormiston, for C.C. Applications to the County Architect, County Buildings, Haddington, by August 5.

Featherstone, Yorks.—Thirty-six old persons' bungalows at Common Lane estate, for U.D.C. Documents from Turner and Holland, architects, 4 King Street, Wakefield. Deposit £3 3s. Tenders by September 5.

Lutterworth, War.—Six bungalows at The Close, Swinford, for R.D.C. Documents from A. F. Ashton, clerk, Council Offices, Lutterworth. Tenders by Aug. 21.

Magherafelt, Londonderry.—Six dwellings at Draperstown for R.D.C. Documents from W. and M. Given, architects, 1 Waterside, Coleraine. Deposit £3 3s. Tenders by Aug. 31.

Plympton St. Mary, Devon.—Sixteen dwellings and roadworks on the Yealm Park

housing site at Yealmpton, for R.D.C. Documents from L. R. Sandover, clerk to the Council, Council Offices, Plympton. Deposit £2 2s. Tenders by August 23.

Portsmouth.—Fourteen flats, Church Street, for City Council. Applications to the City Architect, 1, Western Parade, Portsmouth, by August 8. Deposit £1.

Rawtenstall, Lancs.—Erection of a block of eight flats, at Burnley Road East, Water, for B.C. Documents from J. B. Burrell, borough engineer and surveyor, Town Hall, Rawtenstall. Deposit £2 2s. Tenders by September 4.

Rosneath, Aberdeens.—Four semi-detached three-apartment houses at the proposed development—Ward Road/Pitsligo Street—following trades for B.C.: Excavator and mason work; carpenter and joiner work; plaster and roughcast work; plaster work; plumber work; electrical work; painter work. Applications to the office of Mackie, Ramsey and Taylor, architects, 393 Union Street, Aberdeen. Tenders by August 15.

St. Austell, Corn.—Twelve houses and 16 bungalows at Trekenning Road, St. Columb Major, with all ancillary works for R.D.C. Applications to the Engineer and Surveyor, Trevarena, 12 Carlyon Road, St. Austell. Deposit £2 2s. Tenders by Sept. 27.

St. Germans, Corn.—Three pairs of bungalows at Fairfield housing site, for R.D.C. Documents from the Surveyor, Council Offices, Lower Port View, Saltash. Deposit £2 2s. Tenders by September 6.

Skipton, Yorks.—One pair of semi-detached houses at Neville Road, Gargrave, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Granville Street, Skipton. Deposit £2 2s. Tenders by Aug. 11.

Staffordshire.—Pair of police houses with garages, at Cricket Meadow estate, Sedgley, for C.C. Applications to County Clerk, County Buildings, Stafford, by August 25. Deposit £2 2s. Tenders by September 22.

Surbiton, Surrey.—Middleton estate—phase 4, for B.C. Apply by August 18. Tenders by October 6.

Taunton, Som.—Fifteen aged persons' flats at Wellsprings, for B.C. Applications to C. Bacon, borough architect, Flock House, Station Road, Taunton, by August 12. Deposit £2 2s.

Wakefield, Yorks.—Following two-storey one-bedroomed flats, in blocks of four, for City Council: 12 flats at Kettlethorpe; 12 flats at Denbale Avenue; 24 flats at Alverthorpe Road, with road and sewer; 28 flats at Gloucester Road, with road and sewer; 12 flats and one pair of semi-detached houses at Queen Elizabeth Road, with road and sewer. Applications to the City Engineer, Town Hall, Wakefield, by August 14, stating whether, and if so to whom, they propose to sub-let any portion of the works. Tenders by September 11.

MATERIALS AND SUPPLIES

Birmingham.—Supply of silicone waterproofing solutions for City Council.

Durham.—Supply of machines and equipment for C.C. Tenders by August 25.

Manchester.—Supply of the following for City Council: (a) Forks, shovels and spades; and (b) a black fluid disinfectant (B.S.S. 2462: 1954—group BA) required by various departments of the Corporation during the 12 months ending September 30, 1962. Documents from the Director of Public Cleansing, Town Hall, Manchester, 2. Tenders by August 11.

Minworth, Wors.—Minworth New Works, specification E.33. Supply, delivery and off-loading of thermoplastic and paper insulated wire armoured cables, for Birmingham Tame and Rea District Drainage Board. Documents from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24. Tenders by August 14.

Sheffield, Yorks.—Supply of furniture, carpets, etc., for City Council. Tenders by August 31.

Sunderland, Dur.—Supply of materials, for B.C. Tenders by August 12.

Sunderland, Dur.—Supply of approximately 855 mild steel gates for council houses, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by August 10.

PLANT AND MECHANICAL TRANSPORT

Artrum.—Supply of the following for C.C.: (1) One mechanical diesel road sweeper, with water spray equipment and independent vertical scavenger brush to be fitted with automatic collecting and tipping receptacle of not less than 3 cu. yd. capacity, all hydraulically controlled, price to include for one spare set of brushes and vehicle painted and lettered to the Council's requirements; (2) two C-type boilers 160-gallon capacity, mounted on solid rubber wheels and oil fired, including hoisting tackle, winch, wire rope and barrel slings. Tenders to W. S. Henderson, secretary, County Courthouse, Belfast, by August 15.

Chingford, Essex.—Supply of storage tank, etc., for B.C. Tenders by August 19.

Cork, Eire.—Supply and delivery of one crawler-type tractor with bulldozer shovel of approximately 1 cu. yd. capacity, fitted with diesel engine of not less than 50 h.p., for City Council. The machine is to be suitable for operation on a refuse tip. Tenderers should submit full details of the machine offered and should state what allowance would be given against trade-in of existing I.H.B.T.D.6 tractor with Drott 6K-3 skid shovel. Tenders, endorsed "Tender for Crawler Tractor," to the City Manager and Town Clerk, City Hall, Cork, by August 22.

Ellesmere Port, Ches.—Supply and delivery of a Bedford (diesel engine) 4-ton tipping lorry, with forward control, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Offices, Ellesmere Port. Tenders by September 4.

Gelligaer, Glam.—Supply of one Karrier Gamecock refuse collecting vehicle, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Hengoed, Glam. Tenders by September 1.

Leicestershire.—Supply of a Ferguson F.E.35 De Luxe diesel tractor, rear tyne 11 x 28, front tyne 600 x 16, and for the sale in part exchange of a Ferguson T.20 petrol tractor first registered 1950, which may be inspected at the Brooksby Hall Farm Institute. Documents from Director of Education, Grey Friars, Leicester. Tenders by Aug. 16.

Liverpool.—Supply and delivery of two side-loading refuse collecting vehicles, for City Council. Documents from City Engineer and Surveyor, Municipal Buildings, Liverpool, 2. Tenders by August 25.

Sidmouth, Devon.—Supply and delivery of a new bulldozer for refuse tip work, and/or the purchase of existing machine, for U.D.C. The new machine is to be to refuse control specification and to have a diesel engine of approximately 50-h.p. Every tender should be accompanied by full maker's details and specification. The successful tenderer may be required to take the Council's present David Brown 501TD bulldozer in part exchange, and the tender should state clearly the allowance for this machine, which may be inspected by appointment. Tenders endorsed "Bulldozer," to T. H. Chambers, engineer and surveyor, Council Offices, Sidmouth, by noon August 21.

***Southampton.**—Supply of a fire boat, for B.C. Tenders by October 9.

PLAYING FIELDS, PARKS, ETC.

Belfast.—Construction of playing field and children's playcentre at Oldpark Road, for City Council. Documents from City Surveyor's Department, Room 88, City Hall, Belfast, 1. Tenders by August 30.

Chadderton, Lancs.—Construction of playing fields, Higher House Close, for U.D.C., involving site excavation and filling, levelling, cultivating and seeding of approximately 3,775 sq. yd. of playing field and the construction of approximately 1,307 sq. yd. of hard area for garage site, access road and other ancillary works. Documents from the Engineer and Surveyor, Town Hall, Chadderton. Deposit £2 2s. Tenders by August 11.

***Chigwell, Essex.**—Children's playground—Coopers Close, for U.D.C. Deposit £2 2s. Tenders by August 18.

Downpatrick.—Construction of playing fields at Ballyduigan Road, for U.D.C. Documents from the Engineer's Office, Quoile Road, Downpatrick. Tenders by August 18.

West Riding.—Soiling and sowing of approximately 18,000 sq. yd. of slopes and verges at Queensmead, Thornton in Craven, in the Skipton Rural District, for C.C. Documents from the Assistant County Surveyor, Croft House, Carlton Road, Skipton. Deposit £1. Tenders by August 14.

RIVER AND FLOOD PREVENTION WORKS

High Wycombe, Bucks.—Construction of Hughenden stream diversion, contract 8/1, for B.C., comprising approximately 190yd. of 24in. diameter concrete pipes with double seal joints in open cut, in-situ concrete manhole, inlet and outlet, trunk road crossing, and ancillary works. Documents from the Borough Engineer's Department, Municipal Offices, High Wycombe. Deposit £2 2s. Tenders by August 21.

***Somerset.**—Various works at Huish Episcopi pumping station (near Langport), for River Board. Apply by August 11.

ROADS, BRIDGES AND SITE WORKS

***Aberdare, Glam.**—Housing site preparation works, for U.D.C. Deposit £2 2s. Tenders by August 25.

***Alton, Hants.**—Whitedown garages—construction of hardstanding, for U.D.C. Tenders by September 1.

Ballymena, Antrim.—Carrying out of approximately 80,000 sq. yd. of surface dressing on selected lengths of roadway, for B.C. Applications to the Borough Surveyor, Waveney Road Depot, Ballymena. Tenders by August 8.

Barking, Essex.—Reconstruction of Alfred's Way, for B.C. Tenders by August 28.

Barnes, Surrey.—Reconstruction of Clifford Avenue, A.205, for B.C. Tenders by August 29.

Basingstoke, Hants.—Hounds Mills industrial estate, phase II, for B.C. Deposit £2 2s. Tenders by September 1.

Bebington, Cheshire.—Surfacing with hot rolled asphalt sand and sand/stone carpets on the following road, for B.C.: New Chester Road, A.41; New Chester Road, B.5136; Spital Road, B.5137; and Allport Road, Class III. Documents from the Borough Engineer and Surveyor, Town Hall, Bebington. Deposit £1 1s. Tenders by August 14.

Bedfordshire.—Improvement at Wilstead, trunk road A.6, for C.C. Deposit £2. Tenders by August 18.

Beeston and Stapleford, Notts.—Widening and reconstruction of Nottingham Road, for U.D.C., including 1,000 cu. yd. excavation, 550 lin. yd. kerbing, 1,400 sq. yd. cement-bound granular base, and 3,400 sq. yd. hot rolled asphalt surfacing. Documents from the Engineer and Surveyor, Town Hall, Beeston. Deposit £1 1s. Tenders by August 25.

Bexley, Kent.—Raising of earthen embankment, for B.C. Deposit £5 5s. Tenders by August 28.

Bray, Wicklow, Eire.—Surface dressing of approximately 25,600 sq. yd. of roads, for U.D.C. Documents from Town Clerk, Town Hall, Bray. Tenders by August 8.

Bury, Lancs.—Supply, delivery and mechanical laying of approximately 5,625 sq. yd. of single course fine cold asphalt, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by August 14.

Cardiff.—Downton Lane improvement, for City Council. Deposit £2 2s. Tenders by August 31.

Chislehurst and Sidcup, Kent.—Car park at Burlington Parade, for U.D.C. Apply by August 11. Deposit £2 2s.

Dearne, Yorks.—Roads and sewers at Furlong Road housing estate, for U.D.C. Deposit £2 2s. Tenders by August 25.

Deben, Suffolk.—Construction of 1,470 super. yd. of carriageway, together with footpaths and incidental works at Ufford, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Melton Hill, Woodbridge. Deposit £2 2s. Tenders by August 9.

Denton, Lancs.—Construction of an access road to St. Annes Road tip and the making-up of St. Annes Road, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Denton. Deposit £2 2s. Tenders by August 31.

Doncaster, Yorks.—Private street works, contract 57, for B.C. Deposit £3 3s. Tenders by August 25.

Down.—Following work for C.C.: Reshape and reconstruct Gilford Streets, A.50, for a length of about 700 lin. yd., in the townland of Loughans. Documents from the County Surveyor, County Surveyor's Office, English Street, Downpatrick. Tenders by Aug. 29.

Droylsden, Lancs.—Making-up of Repton Avenue and Godfrey Avenue for U.D.C. Documents from H. H. Emery, engineer and surveyor, Council Offices, Droylsden. Tenders by August 12.

Ebbw Vale, Mon.—Highway maintenance 1961-62, for U.D.C., including the taking up of existing and laying new kerbs; taking up existing and laying new paving slabs, and surfacing existing footways in bituminous macadam and fine cold asphalt, together with drainage and ancillary works. The works are to be carried out on several streets or roads. Approximate quantities are: Kerbing, 4,100 lin. yd.; flagstone paving, 1,700 sq. yd.; and bituminous paving, 6,200 sq. yd. Documents from J. M. Davies, engineer and surveyor, District Council Offices, The Walk, Ebbw Vale, Mon. Deposit £2 2s. Tenders by August 19.

Epsom and Ewell, Surrey.—Footpath repairs for B.C. Deposit £2 2s. Tenders by August 14.

Esher, Surrey.—Construction of car park, contract 323, for U.D.C. Deposit £1 1s. Tenders by August 29.

Fifeshire.—Stirling, Cupar, St. Andrews trunk road (A.91). Work of improving the cross roads at Trafalgar, 6 miles west of Cupar, for C.C. The road works extend to 2,730 lin. ft., and comprise earthworks, bottoming, surfacing, drainage, fencing, etc. Documents from the County Surveyor, County Offices, Belfield, Cupar. Deposit £2 2s. cheque. Tenders by August 23.

Folkestone, Kent.—Central station roundabout. Supplying and laying by mechanised spreader approximately 500 tons of hot rolled asphalt surfacing and dense bitumen-macadam regulating course, for B.C. Documents from the Borough Engineer, West Terrace, Folkestone. Tenders by August 8.

Fulwood, Lancs.—Private street works, for U.D.C. Deposit £2 2s. Tenders by September 7.

Gainsborough, Lancs.—Widening and realignment of North Street, for U.D.C. Deposit £2. Tenders by August 30.

Gosport, Hants.—Private street works, contract 3, for B.C. Deposit £2 2s. Tenders by September 5.

Halifax, Yorks.—Making-up of Pye Nest Drive, for B.C. Deposit £2. Tenders by August 18.

Hampshire.—Road works—trunk road A.303, for C.C. Apply by August 15.

Heckmondwike, Yorks.—Making-up of Berwick Avenue (part), for U.D.C., comprising approximately 600 sq. yd. of road surfacing, 200 lin. yd. of kerbing and 240 sq. yd. of footpaths, together with ancillary works thereto. Documents from the office of the Engineer and Surveyor, Council Offices, Heckmondwike.

Hertfordshire.—Diversion of A.414 at Eastwick, for C.C. Tenders by September 6.

Ilford, Essex.—Reconstruction of parts of Ley Street and Horns Road, for B.C., including the reconstruction of approximately 4,000 sq. yd. of existing carriageway in 9in. reinforced concrete on a 6in. hardcore sub-base, the taking-up and re-laying of approximately 850 lin. yd. of kerbing, and approximately 2,500 sq. yd. of paving, together with drainage and other ancillary works. Applications to the Borough Engineer, Town Hall, Ilford. Deposit £2 2s. Tenders by August 14.

Ilford, Essex.—Reconstruction of New North Road (part)—Fencepiece Road to Hainault station, for B.C., including reconstruction of approximately 5,000 sq. yd. of existing carriageway in 9in. reinforced concrete on a 6in. hardcore base, together with the re-laying of approximately 1,200 lin. yd. of granite kerb and 3,400 sq. yd. of footway, together with all incidental works, including the resurfacing of approximately 880 sq. yd. of existing concrete carriageway with rolled asphalt by a nominated sub-contractor. Documents from the Borough Engineer and Surveyor, Town Hall, Ilford. Deposit £2 2s. Tenders by August 22.

Ilford, Essex.—Reconstruction of New North Road (part)—Fencepiece Road to Hainault station, for B.C., including reconstruction of approximately 5,000 sq. yd. of existing carriageway in 9in. reinforced concrete on a 6in. hardcore base, together with the re-laying of approximately 1,200 lin. yd. of granite kerb and 3,400 sq. yd. of footway, together with all incidental works, including the resurfacing of approximately 880 sq. yd. of existing concrete carriageway with rolled asphalt by a nominated sub-contractor. Documents from the Borough Engineer and Surveyor, Town Hall, Ilford. Deposit £2 2s. Tenders by August 22.

Ince-in-Makerfield, Lancs.—Construction of roads, sewers and water mains at Industrial Bee housing site, for U.D.C., involving the construction of approximately 2,450 lin. yd. of concrete kerbs and channels, 7,700 sq. yd. of carriageway foundation and base course, and 2,300 lin. yd. of sewers of diameters from 6in. to 24in. and other appurtenant works. Documents from the Surveyor, Town Hall, Ince. Deposit £2 2s. Tenders by August 8.

Keighley, Yorks.—Morkin Bridge improvement, for B.C. Deposit £2 2s. Tenders by August 21.

Kidderminster, Wores.—Permanent reinstatement of trenches in various roads and footpaths, for B.C. Documents from the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster. Tenders by August 14.

Launceston, Corn.—Stage 1, site development works at Chapel, Launceston, the Meadowside Estates, Ltd., comprising: Approximately 780 lin. yd. of foul sewer (6in.), 170 lin. yd. of surface water sewers and connections (9in. and 6in.); 520 lin. yd. kerbing; 2,300 sq. yd. hardcore and tarmacadam carriageway and 980 sq. yd. of hardcore and tarmacadam footways. Documents from H. C. Golding, engineer to Meadowside Estates, Ltd., Heightleigh, Tavistock Road, Launceston. Deposit £3 3s. Tenders by August 26.

Leighley, Yorks.—Morkin Bridge improvement, for B.C. Deposit £2 2s. Tenders by August 21.

Leicestershire.—Small schemes, for C.C. Deposit £5. Tenders by August 24.

Leicestershire.—Reconstruction of a section of A.453, for C.C. Deposit £5. Tenders by August 24.

Leicestershire.—Improvement schemes, for C.C. Deposit £5. Tenders by August 24.

Londonderry.—Reconstruction of the under-noted roads, for C.C.: (1) Approximately 2½ miles of route A.29, Maghera to Tobermore, commencing at Maghera, work involves the widening of the existing reinforced concrete bridge and includes the construction of bored piles, approximately 45,000 cu. yd. excavation and the supply of 39,000 cu. yd. of filling; (2) approximately 200 lin. yd. of route A.29, Coleraine Road, Maghera, together with ancillary works. Documents from H. K. Scott, County Surveyor, Courthouse, Coleraine. Deposit £5 each. Tenders by August 29.

Manchester.—Foundations and finishing works for primary school for City Council. Tenders by Aug. 22.

Midlothian.—Demolition of existing masonry arch bridge and construction of 33ft. span steel beam and concrete bridge and approximately 170 lin. yd. of road at Ford Village, near Pathhead, for C.C. Documents from the County Surveyor, 32 Palmerston Place, Edinburgh. Deposit £2. Tenders by August 14.

Mossley, Lancs.—Road resurfacing works, for B.C. Deposit £2 2s. Tenders by August 29.

Newbury, Berks.—Kerbing and footpaths at Bath Road housing site, for B.C. Tenders by August 16.

Northern Ireland.—Resurfacing of carriageways as Tyrone and Fermanagh Hospital, Omagh, Co. Tyrone, for Hospitals Authority. Documents from the Secretary of the Hospital. Tenders by August 11.

Northwich, Cheshire.—Construction of approximately 550 sq. yd. of tarmacadam roads, 515 sq. yd. of flagged paving, 450 lin. yd. of 6in. and 9in. diameter foul and surface water sewers, together with ancillary works in the Parish of Hartford, for R.D.C. Documents from the Engineer and Surveyor, Whitehall, Hartford. Deposit £2 2s. Tenders by August 31.

Preston, Lancs.—Resurfacing in 3in. two-coat hot rolled asphalt of Skeffington Road, from Dodgson Road to Ribbleton Lane and Harewood Road to the level crossing for B.C. Documents from the Borough Engineer and Surveyor, Municipal Building, Preston. Deposit £2 2s. Tenders by August 17.

Rawtenstall, Lancs.—Making-up of Turton Hollow Road, for B.C., comprising 240 super. yd. footpath and 11,335 super. yd. carriageway, surfaced with bituminous macadam. The contract also includes the building of approximately 70 lin. yd. stone-faced mass concrete retaining wall, and other ancillary work. Documents from the Borough Engineer and Surveyor's Department, Town Hall, Rawtenstall. Deposit £2 2s. Tenders by August 28.

St. Helens, Lancs.—Mill Lane improvement for B.C. Deposit £2 2s. Tenders by Sept. 18.

Scotland.—Gretna-Stranraer-Glasgow-Stirling trunk road, A.77—retaining wall near the McDonald Hotel, Eastwood Toll, for Scottish Home Department, involving site clearance, excavation work and the construction of a synthetic stone-faced, reinforced, concrete cantilever retaining wall, approximately 285ft. in length and a maximum height of about 12ft. Documents from the offices of Kyle and Frew, consulting engineers, 9 Clairmont Gardens, Glasgow, C.3. Deposit £5, cheque payable to the Queen's and Lord Treasurer's Remembrancer. Tenders by August 14.

South Shields, Dur.—Tarmacadam and asphalt surfacing of various areas within Tyne Dock, South Shields, for Tyne Improvement Commission. Documents from the Chief Engineer, Berwick Street, Newcastle, 1 Tenders by August 25.

Southwick, Sussex.—Comprehensive development area 9, new shopping centre. Following works for U.D.C.: Surfacing of existing builders' road with tarmacadam and bituminous surfacing, channelling, kerbing, slab paving, construction of concrete parking lay-bys and car parks, street lighting, and ancillary works. Documents from the Engineer and Surveyor, 21 Albion Street, Southwick. Deposit £3 3s. Tenders by August 30.

Staffordshire.—Widening of part of A.4123, for C.C. Deposit £5. Tenders by August 22.

Stockport, Cheshire.—Street and sewer works in Devonshire Road and adjoining streets, for B.C. Documents from Borough Surveyor, Town Hall, Stockport. Tenders by August 9.

Surrey.—Resurfacing with hot rolled asphalt to B.S.S. 594:1958 two traffic roundabouts at Horley and one at Esher (total approximately 700 tons), for C.C. Documents from County Engineer, County Hall, Kingston-upon-Thames. Tenders by August 19.

Westbury, Wilts.—Construction of approximately 1,500 super. yd. of new roads, 1,000 super. yd. of public pavements, and 350yd. run of 6in. and 9in. sewers at Wellhead site, for U.D.C. Applications to F. W. Featherstone, clerk of the Council, Laverton Institute, Westbury, by August 16. Deposit £2 2s., cheques payable to U.D.C.

West Sussex.—London-Portsmouth trunk road (A.3), improvement of Bull Hill, near The Flying Bull P.H., Rake, for C.C., involving the realignment of 140yd. of the southern side of the trunk road and raising the level of Bull Hill over a length of 130 yd., using wet-mix construction with a bituminous surfacing. Applications to Maurice Milne, county engineer and surveyor, County Hall, Chichester, by August 9.

Widnes, Lancs.—Roads and sewers at Pace Lane housing site, for B.C. Deposit £2 2s. Tenders by August 21.

Wiltshire.—Accommodation works at Wroughton High Street for C.C. Tenders by Aug. 28.

Woking, Surrey.—Barnsbury Farm (South) completion works, for U.D.C., including: Approximately 850 sq. yd. of asphalt carpet to carriageways; approximately 950 sq. yd. of tarred gravel-surfaced hardstanding area; approximately 750 sq. yd. of footways. Documents from the Engineer and Surveyor, Council Offices, Woking. Deposit £2 2s. Tenders by August 14.

Wrexham, Denbighs.—Following for B.C.: (1) Borras Park Road, 289 lin. yd. 9in. surface water sewer, four manholes and ancillary works; (2)-(a) Kingsmills Road Improvement (Whitegate Road to C. T. Clarke's), (b) Croesnewydd Road Footpath (North Side), (c) Brook Street Improvement (adjacent to Victoria Hall).

Documents from J. M. Davies, borough engineer and surveyor, Guildhall, Wrexham. Deposit £2 2s. each. Tenders by August 21.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Altrincham, Cheshire.—Supply of a complete set of mechanised sewer dredging equipment, for B.C. Complete lists of equipment with prices should be supplied. Tenders to Town Clerk, Town Hall, Altrincham, in plain envelope marked "Sewer Dredging Equipment" by noon August 9.

Athlone, Westmeath, Eire.—Bunnalvalley and Retreat sewerage scheme and proposed sewer at Leinster Terrace, for U.D.C., including the laying of the following approximate lengths of pipe: 420 lin. yd. 4in. s.i. rising main; 250 lin. yd. 6in. stoneware pipe; 504 lin. yd. 6in. concrete pipe; 1,983 lin. yd. 9in. concrete pipe; 737 lin. yd. 18in. concrete pipe; 224 lin. yd. 21in. concrete pipe, together with the construction of a pumping station and other ancillary works. Documents from P. H. McCarthy and Son, consulting engineers, 26 Lower Leeson Street, Dublin, 2. Deposit £10 10s. Tenders by September 5.

Athlone, Westmeath, Eire.—Supply and installation of two electrically operated sewage pumping sets having a capacity of 11 cu. ft. per minute when working in parallel, together with the necessary accessories, for U.D.C. Documents from P. H. McCarthy and Son, consulting engineers, 26 Lower Leeson Street, Dublin, Deposit £5 5s. Tenders by September 5.

Birmingham.—Calthorpe Park redevelopment area, units 501, 502 and 503 sewerage, for City Council, including the construction of approximately 3,000 lin. yd. of stoneware and concrete pipe foul and surface water sewers from 30in. diameter to 9in. diameter, together with incidental works. Documents from the office of Sir Herbert J. Manzoni, city engineer and surveyor, Baskerville House, Civic Centre, Birmingham, 1. Deposit £2 2s. cheque. Tenders by August 16.

Chelmsford, Essex.—Sewerage scheme, contract 2, for R.D.C. Deposit £10. Tenders by Oct. 6.

Chigwell, Essex.—Soil sewer at Lambourne Road, for U.D.C. Deposit £2 2s. Tenders by August 18.

Darton, Yorks.—Towngate drainage scheme for U.D.C. Tenders by Aug. 28.

Darton, Yorks.—Construction of a surface water sewer from Agnes Road into the River Dearne, for U.D.C., including the laying of 265 lin. yd. of concrete pipes, the construction of manholes and all other incidental works connected therewith. Documents from the Engineer and Surveyor, Council Offices, Darton, near Barnsley. Tenders by August 19.

Elland, Yorks.—Construction of approximately 150yd. of 12in. diameter s.g.w. sewer, manholes, etc., at Shutts Lane, Greathead, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Elland. Tenders by August 21.

Epping and Ongar, Essex.—Additional sludge drying beds (area approximately 6,150 sq. ft.) at the Stanford Rivers Sewage Disposal Works, Ongar, for R.D.C. Applications to the Engineer and Surveyor, 209 High Street, Epping, by August 7. Deposit £2 2s.

Fivemiletown, Tyrone.—Laying sewers and connecting one house sewer to main town sewer for the Northern Ireland General Health Services Board. Documents from the Board's Secretary, 2 Adelaide Street, Belfast, 2. Tenders by Aug. 18.

Godstone, Surrey.—South Godstone sewage disposal works, for R.D.C. Construction of two reinforced concrete storm water tanks and pumping sump, pump house and flume channels, together with the laying of approximately: 205yd. of 12in. diameter cast-iron pipe soil sewer; 270yd. of 9in. diameter stoneware pipe soil sewer and other ancillary works. Documents from the Engineer and Surveyor, Council Offices, Oxted. Deposit £5 5s. Tenders by August 16.

Hawarden, Flintshire.—Extension of sewer—Cymau, Wrexham, for R.D.C. The extension will consist of approximately 210 lin. yd. 6in. diameter glazed stoneware pipes, together with the construction of appurtenant concrete tube manholes, and reconnecting the existing property drains to the new system. Applications to the Surveyor, Council Offices, Hawarden, Chester, by August 12. Tenders by September 6.

Haydock, Lancs.—Construction of approximately 4½ miles of sewers of varying sizes up to 48in. diameter, together with storm water overflow, manholes, and other appurtenant works, for U.D.C. Documents from the offices of Charles J. Lomax and Son, civil engineers, 68 Barton Arcade, Deansgate, Manchester, 3. Deposit £5 5s. cheques payable to U.D.C. Tenders by August 24.

Highworth, Wilts.—Bishopton sewage and sewage disposal, for R.D.C. Apply within two weeks.

High Wycombe, Bucks.—Connection of seven properties at Hammersley Lane to main sewer from existing cesspools, for B.C., comprising the laying in short lengths of approximately 75yd. of 4in. diameter salt glazed stoneware pipes, and ancillary works. Documents from the Borough Engineer's Department, Municipal Offices, High Wycombe. Tenders by August 21.

Huntingdon.—Laying of approximately 300yd. of concrete and stoneware sewers of 9in. and 6in. diameter, together with manholes and the reinstatement of road surfaces at Thrapston Road housing estate, for R.D.C. Documents from the offices of Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £2 2s. Tenders by August 30.

Inverness.—Provision of new sewers and water mains for a private housing development to be provided in the Lochardill area for B.C. The work involves the laying of approximately 450 lin. yd. of fireclay pipe and the excavation for approximately 450 lin. yd. of water main. Documents from the Burgh Surveyor, Town House, Inverness. Tenders by Sept. 16.

Inverness.—Laying of new sewer and water main near Burn Road for B.C., involving approximately 70 lin. yd. of 9in. diameter fireclay pipe and ancillary works, and excavation for 120 lin. yd. of 4in. water main. Documents from the Burgh Surveyor, Town House, Inverness. Tenders by Aug. 19.

Llanfyllin, Monts.—Meifod sewerage and sewage disposal scheme for R.D.C. Deposit £10. Tenders by Sept 20.

Nantwich, Cheshire.—Drainage scheme at Cemetery Road, Weston, for R.D.C. Deposit £1 1s. Tenders by September 18.

Newbury, Berks.—Construction of a sewage ejector station (100 super. ft.), together with 130 lin. yd. of 4in. diameter cast-iron class B rising main, 190 lin. yd. of 6in. diameter cast-iron class B pipe sewer, and ancillary works at Boundary Road, for B.C. Documents from the Borough Surveyor, Municipal Buildings, Newbury. Tenders by August 21.

North Lonsdale, Lancs.—Ayside sewerage and sewage disposal scheme, for R.D.C., including the following works: (1) Construction of sewage disposal works, consisting of a sedimentation tank, filter, humus tank and two sludge drying beds; (2) laying approximately 150 lin. yd. 6in. diameter cast-iron sewer; (3) laying approximately 712 lin. yd. 6in. diameter glazed earthenware sewer; (4) constructing 18 manholes. Documents from the office of H. Whittaker, engineer and surveyor, Todbusk, Springfield Road, Ulverston. Tenders by August 16.

Northwich, Cheshire.—Sewerage and sewage disposal scheme for R.D.C. Deposit £2 2s. Tenders by Sept. 7.

Poole, Dorset.—Supply and erect sewage pumps for B.C. Tenders by Aug. 21.

Portland, Dorset.—Underwater inspection of a 12in. internal diameter foul sewer outfall at West Weares Cove, Chesil, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Portland. Tenders by August 28.

Rotherham, Yorks.—Fence sewerage scheme for R.D.C. Deposit £3 3s. Tenders by September 2.

St. Albans, Herts.—Construction of Harpenden Road foul sewer, comprising approximately 860 lin. yd. of 9in. diameter stoneware pipe and 13 manholes, for City Council. Documents from the City Engineer, 16 St. Peter's Street, St. Albans. Tenders by August 21.

Scarborough, Yorks.—Holbeck Hill relief sewer for B.C. Deposit £2 2s. Tenders by Aug. 18.

Shrewsbury, Salop.—Belvidere drainage scheme for B.C. Deposit £2 2s. Tenders by Sept. 11.

Spalding, Lincs.—Extensions to Crowland sewage disposal works, contract 1 and 2, for R.D.C. Deposit £3 3s. each. Tenders by August 25.

Tiverton, Devon.—Silvertown sewerage and sewage disposal, contract 1, for R.D.C. Deposit £5 5s. Tenders by August 29.

Uppingham, Rutland.—Laying of 3,500yd. of sewers of 9in. and 6in. diameter, together with the construction of a sewage disposal works at Barrowden, five miles east of Uppingham, for R.D.C. Documents from Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £5 5s. Tenders by September 5.

West Bridgford, Notts.—Works of sewerage and sewage disposal, for U.D.C. Deposit £5 5s. Tenders by September 26.

STREET LIGHTING

Belfast.—Supply and delivery of the following for City Council: (a) Floodlighting fittings and lamps (specification W.196); (b) sodium floodlighting lanterns, brackets, steel standards, and flashing beacon equipment (specification W.197). Documents from Electricity Department, East Bridge Street, Belfast, 1. Deposit £1 1s. each, cheques payable to Electricity Department. Tenders by August 9.

Burnham-on-Sea, Som.—Street lighting contract 46, for U.D.C. Deposit £2 2s. Tenders by August 21.

Crickhowell, Brecons.—New group A sodium lighting, for R.D.C., including the provision and erection of sodium lamps and lanterns, together with steel columns and fittings in 35 lighting positions on route A.40 at Crickhowell. Documents from R. A. Jackson, surveyor and public health inspector, at the Council Offices, Crickhowell. Deposit £3 3s. Tenders by August 21.

Fifeshire.—Supply of 38 steel columns, sodium lanterns, etc., for group A roundabout lighting, for C.C. Documents from County Surveyor, Belfield, Cupar. Tenders by August 19.

Holywood, Down.—Provision and erection of following for U.D.C.: (1) Provision and erection of 43 fluorescent street lighting lanterns (2 x 40 watt); (2) provision and erection of 50 lin. yd. approximately x 2ft. 6in. high mild steel railings. Documents from the Town Surveyor, Council Offices, Holywood. Tenders by Aug. 14.

Kincardine.—Installation of five sodium harbour lighting positions at Gourdon Harbour, for C.C. Documents from the County Road Surveyor, Viewmount, Stonehaven. Tenders by August 11.

Knutsford, Cheshire.—Supply and erection of 23 group A steel columns and lanterns, and the removal of six existing columns. Also the exchange of 46 vertical mounted 250-W MV lanterns by the new horizontal pattern suitable for use with 250-W HP MV lamps, for U.D.C. Documents from the Surveyor, Council Offices, Toft Road, Knutsford. Tenders by August 14.

North Riding.—Mercury vapour lighting at two roundabouts, for C.C. Documents from County Surveyor, County Hall, Northallerton. Tenders by August 21.

Sittingbourne and Milton, Kent.—Supply and erection of approximately 150 group B lamps in various streets, for U.D.C. The columns are to be precast concrete and the lanterns to be 80-watt mercury vapour. Documents from the Engineer and Surveyor, Lydbrook, 89 London Road, Sittingbourne. Deposit £2 2s. Tenders by August 9.

Tottenham, Middx.—Following in connection with stage IX lighting improvements scheme, totalling approximately 1,090 group B installations for various district roads, for B.C.: (a) Supply and erection of 15ft. concrete lighting columns and brackets; (b) supply only 60-W totally enclosed sodium lanterns; (c) supply only 60-W sodium lamp control gear. Documents from the Borough Engineer and Surveyor, Town Hall, Tottenham, N.15. Deposit £2. Tenders by August 18.

Welwyn Garden City, Herts.—Erection and painting of 82 steel lamp columns and lanterns, including taking down the existing lamp columns. Contractors may tender for either the erection or painting of the columns, or for both, for U.D.C. Documents from the office of the Engineer and Surveyor, Council Offices, Welwyn Garden City. Tenders by August 28.

INTERNATIONAL CONTRACTS

India.—The construction of a lighthouse at Lushington Shoal, position Lat. 22°-37' N. Long. 68°-45' E., located at the mouth of the Gulf of Kutch in the Arabian Sea, for the department of Lighthouses and Lightships (Ministry of Transport and Communications), New Delhi, India. Documents from the Co-ordination Branch, India Store Department, Bromyard Avenue, Acton, W.3, at a cost of £3 15s. per set, which is not refundable. The successful tenderer will be required to make a deposit of £7,500 as earnest money, before the contract is placed. Specimen copy of this enquiry can be seen at the Engineering Branch, India Store Department, under the following reference number: S.3106/61/NSC/ENG.2. Tenders by 4 p.m., October 3, in India.

Sudan.—Design and construction of a reinforced concrete or steel roadway bridge across the River Nile between Omdurman and Sham bat for the Republic. The bridge is to be about 720 metres long, and with approaches is about 1,458 metres long; the bridge is to have four 12ft. wide traffic lanes and two footways, with an overall width of 22.63 metres. The preliminary drawings can be seen at the office of the Director, Ministry of Local Government, Khartoum, and Coode and Partners, consulting engineers, Abbey House, 2 Victoria Street, London, S.W.1. It is expected that documents will be issued to approved tenderers on Nov. 17, and four months (and no more) will be allowed for the preparation of tenders. Applications to the Director, Ministry of Local Government, Khartoum, with copy to the Consulting Engineers, by Sept. 15, giving full details of the applicant's previous experience in the design and construction of such a bridge.

AWARDS

BUILDING AND DECORATING

(See also Housing Schemes)

Baldock, Herts.—Provision of bathrooms and w.c.s, etc., to 12 holdings at Baldock for C.C.—T. Raban and Sons, Sun Street, Baldock, £6,355 (recommended).

Bebington, Cheshire.—Erection of a hostel block and 23 bungalows on land at Kennet Road, off Teehey Lane, for B.C.—W. H. Benbow and Sons, Ltd., Bridge Street, Neston, Winal, £63,653.

Belfast.—Supply, fabrication and erection of structural steelwork for Somerdale Boys' Secondary School, Somerdale Park, for City Council. Kirk McClure and Morton, consultant engineers, 2 Elmwood Avenue, Belfast, 9—Gregg and Patterson (Engineers), Ltd., 530 Shore Road, Belfast. Work to start in Jan.

Berkhamsted, Herts.—Construction of the new health centre at Victory Road for C.C.—F. Harrowell and Sons, Ltd., 58 Western Road, Tring, £17,384 (recommended).

Billingham-on-Tees, Dur.—Construction of underground public conveniences at the Town Centre for the U.D.C. E. Shaw, surveyor—Derek Crouch (Contractors), Ltd., Station Road, Birtley, Co. Durham.

Birmingham.—Erection of a seven-storey home for old people at corner of Livingstone Road and Bridgeland's Way, Perry Barr, for City Council—Direct Labour, £184,070 (recommended).

Birmingham.—Following for the Regional Hospital Board: Modifications at Uffculme Hospital—Davey Bros., Ltd., 199 Yardley Fields Road, Birmingham, 33, £1,176; partitioning of ward A23 at Rubery Hill Hospital—Internal Constructions, Ltd., 62 London Wall, London, E.C.2, £1,716; new floor finishes at Marston Green Maternity Hospital—Limmer and Trinidad Lake Asphalt Co., Ltd., Trinidad House, Coventry Street, Birmingham, 5, £1,185; redecorations at Birmingham and Midland Ear and Throat Hospital—G. Stubbins, Ltd., Streetly Road, Erdington, Birmingham, 23, £1,901; interior redecoration at Birmingham and Midland Eye Hospital—A. Seers and Son, Ltd., 164 Broad Street, Birmingham, 15, £1,249; interior redecoration of H and K block at Summerfield Hospital—Sargent Bros. (Builders and Decorators), Ltd., 23 Gerrard Street, Birmingham, 19, £3,397; exterior painting at the Woodlands section of the Royal Orthopaedic Hospital and at Sorrento Hospital—C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10, £6,189, and J. Patrick and Co., Ltd., 115 Anderton Road, Birmingham, 11, £2,445, respectively; interior redecorations at Birmingham Chest Hospital—W. Sapcote and Sons, Ltd., 87 Camden Street, Birmingham, 1, £1,369; provision of out-patients' department, redecoration of J, K and M blocks and exterior painting at Selly Oak Hospital—C. Bryant and Son, Ltd., £308,779; F. Deely, Ltd., 210 High Street, Harborne, Birmingham, £4,300; and W. Juggins and Co., Ltd., Carpenters Road, Birmingham, 19, £4,085, respectively; exterior painting at Little Bromwich Hospital—F. Deely, Ltd., £3,086; builders' work for the provision of five flats at 200 Hamstead Road for use as medical staff quarters for Dudley Road Hospital—C. Green and Son, Ltd., 132 Monument Road, Birmingham, 16, £5,995 (recommended).

Bolton, Lancs.—Upgrading of Musgrave Ward at Royal Infirmary for Manchester Regional Hospital Board—George and Beddows, Ltd., Vallat's Lane, Bolton, £10,013 (recommended, subject to Ministry approval).

Bradford, Yorks.—Following for City Council: Construction of a maintenance workshop and internal painting work at Bradford Institute of Technology—J. and J. Obank, Ltd., Overdale Town Lane, Idle, Bradford, £2,759, and D. E. Bagley and Co., Ltd., 111 Legrams Lane, Bradford, 7, £2,594, respectively (recommended).

Erection of the South Bradford Secondary School—M. Harrison and Co. (Leeds), Ltd., Post Hill Quarries, Farmley, Leeds, 12, £345,856 (recommended, subject to M.E. approval).

Brentford and Chiswick, Middx.—Internal and external redecoration of east wing at Chiswick County Girls' School for B.C.—J. Cole (Painting), Ltd., Boston House, Cheapside, London, E.C.2, £2,160 (accepted); Architectural Decorators, Ltd., £2,399; George Jones and Son (Contractors), Ltd., £2,406; Industrial Coatings and Contractors, Ltd., £2,482; C. A. Byrd, Ltd., £2,762; P.C.S., Ltd., £2,821; and D. P. O'Neill, Ltd., £5,555. Work commenced.

Bromsgrove, Worcs.—Following for the Birmingham Regional Hospital Board: Exterior painting at Forelands, Royal Orthopaedic Hospital—Daniel Decorations (Birmingham), Ltd., 709 Bristol Road South, Birm-

ingham, 31, £1,039; conversion of infectious diseases unit for staff use at Barnsley Hall Hospital—Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, Corn., £16,930 (recommended).

Bushey, Herts.—Conversions and extensions to the Branch Library for C.C.—Woodside Builders, Ltd., 92 Cecil Street, Watford, £8,908 (recommended).

Cardiff.—Following for City Council: Provision of additional classrooms at Llanrumney County Secondary Boys and Girls' Schools—Swatridge and Son (Cardiff), Ltd., 599 Newport Road, Rumney, Cardiff, £13,252; additional classrooms at St. Joseph's R.C. Primary School—Charles Winstone (Builders), Ltd., 4a Llantaffock Road, Fairwater, Cardiff, £3,404; shower rooms at Pontcanna dressing rooms—G. W. Crawley, Ltd., £7,982; construction of Fitzalan Technical High School for Bays, Leckwith—Charles Winstone (Builders), Ltd., £318,998; extensions to cleansing depots at Wedal Road, Colchester Avenue, and Waungron Road—Direct Labour, £8,487; convenience and shelter at Howard Gardens and convenience and store at Butetown—Davies and Davies, Ltd., 206 Penarth Road, Cardiff, £3,051 and £1,186, respectively (recommended).

Chelmsford, Essex.—Erection of new headquarters at Widford industrial estate for Marconi International Marine Communication Co., Ltd.—Ashby and Horner, Ltd., 69 Bishopsgate, London, E.C.2, estimated cost £279,000. F. J. Taylor and Son and Bracken, architects, 20 London Road, St. Albans, Herts.; Price and West, quantity surveyors, 47 Beech Street, Regent Street, London, W.1, and Lowe and Rodin, consulting engineers, 171 Victoria Street, London, S.W.1. Work just commenced.

Chertsey, Surrey.—Internal redecoration and improvement of the Police Station for C.C.—Hurley and Smithers, Ltd., Leacot Green Road, Thorpe, Egham, £694.

Cheshunt, Herts.—Extensions to the Grammar School for C.C.—Field Davis, Ltd., 683 High Road, London, N.12, £22,243 (recommended).

Cockfosters, Middx.—Supply and erection of Nuraphalte roofing at the Trent Park Training College, for C.C.—The Weatherhead Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

Corby, Northants.—Erection of the Church of the Epiphany in the town centre for the Church Council—A. P. Bland and Co., Ltd., Grafton Works, Grafton Street, Kettering, estimated cost £50,000. Site work commenced.

Croydon, Surrey.—Erection of public conveniences at Hartland Way, New Addington, Gravel Hill and Crown Point for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £3,650, £5,825, £2,400 and £3,475, respectively.

Dagenham, Essex.—Erection of a church at Manor Road/Rainham Road South for the East Ham Methodist Mission—Edward Glenny and Son, Ltd., 28 Ripple Road, Barking, Essex.

Dublin, Eire.—Erection of 17-storey office block at Eden Quay/Beresford Place for Irish Transport and General Workers' Union, Desmond Rea O'Kelly, consulting engineer and architect, 15 Fitzwilliam Square, Dublin—John Sisk and Son (Dublin), Ltd., Wilton Works, Pembroke Row, Dublin. Estimated cost £600,000.

Duston, Northants.—Extension to Duston C.E. Primary School for C.C.—Underwood and Weston, Ltd., 19 Ladys Lane, Northampton, £12,043.

Durham.—Following for C.C.: Alterations to New Silksworth County School—Hewitt and Son, Station Works, Haswell, Co. Durham, £4,350; steelwork, Wingate Modern School—J. Dawson Fawcett (Darlington), Ltd., Darlington, £5,640.

Ealing, Middx.—Following for B.C.: External painting of Council dwellings—(Group 1) Griffin Bros., 256 Tokyngton Avenue, Wembley, £4,192; (3) E. R. Blackborow, London, N.W.10, £2,952; (4), (5), (6), (7) and (2) Haymills (Contractors), Ltd., Hanger Green, London, W.5, £9,048; £2,295; £1,678, £2,578; and £2,800, respectively (recommended).

Provision of public conveniences, shelter, etc., at Montpellier Park—P. G. Wellfair, Carlisle Avenue, £2,346; Wembley Construction, Ltd., £2,346; Sherman and Co., Ltd., £2,363; G. T. Crouch, Ltd., £2,368; Stanley Raymond and Co., Ltd., £2,470; G. Holland and Son, Ltd., £2,542; White and Thomas, Ltd., £3,025; and G. S. Hanks and Co. £3,120.

Extension of staff toilets at Stanhope Secondary School—B. and B. Contractors, Ltd., £1,024; Bird and Cargill, Ltd., £1,027; Bristol and Darlington, Ltd., £958; Ferris Bros., £1,169; J. Lawson and Co., Ltd., £1,207; Roger Miller and Co., Ltd., £1,024; and Wembley Construction, Ltd., £959.

Provision of advanced biology laboratory at Eliots Green Grammar School—Bristol and Darlington, Ltd., £1,159; Hillingdon Decorators, Ltd., £1,362; E. J. Lacey and Co., Ltd., £1,412; Roger Miller and Co., Ltd., £1,194; Wembley Construction, Ltd., £1,681; and White and Thomas, Ltd., £1,374.

Exeter, Devon.—Removal and re-erection of 16 Edmund Street to 48-49 West Street for City Council. David Nye, architect, Coastal Chambers, 172 Buckingham Palace Road, London, S.W.1. Building work—T. B. Keate and Co., Countess Wear Road, Exeter, £4,950; framing up and moving of building—Pynford, Ltd., 74 Lancaster Road, London, N.4, £2,080 (recommended).

Frome, Som.—Erection of the Mendip Motel on site of the White House Hotel, Bath Road, for Watney-Lyon Motels, Ltd., Erdi and Rabson, architects, 14-15 Queenhithe, London, E.C.4. Main contractor—Stephens and Sons, Ltd., 162 Sidwell Street, Exeter; prefabricated structure—Vic Hallam, Ltd., Valley Works, Langley Mill, Nottingham.

Fulham.—Building work for development of Cobb's Hall for housing, branch library and Civil Defence purposes for B.C.—Tersons, Ltd., 4 Dollis Park, London, N.3, £119,387 (recommended); Percy Bilton, Ltd., £119,893; Leslie and Co., Ltd., £121,467; Rowley Bros., Ltd., £130,734; Kirk and Kirk, Ltd., £133,328.

Conversion and improvement of 128 and 128a Stephendale Road, for B.C.—F. C. White and Son (Fulham), Ltd., Fulham, £1,659 (recommended).

Godstone, Surrey.—External and partial internal decoration, etc., of 1, 2 and 3 Tyers Green for C.C.—W. Monger and Sons, 28 Little Roke Avenue, Kenley, £670.

Greenock, Renfrews.—Erection of new Greenock Academy to accommodate 1,280 pupils, at an estimated cost of £500,000, for Education Authority. Frank Burnet, Bell and Partners, architects, 180 Hope Street, Glasgow, C.2—Excavator, concrete, brick, etc.—A. Robertson and Co. (Builders and Contractors), Ltd., 68 Holmescroft Street, Greenock; carpenter, joiner, etc.—Wm. Gibson and Co. (Builders), Ltd., 25 St. James Street, Paisley; roof tiler and roughcast works—A. C. Whyte and Co., Ltd., 95 Bath Street, Glasgow, C.2; plaster work—Thomas Dunn and Co., 1 Brachelton Street, Greenock; asphalt work—Val de Travers Asphalt Co., Ltd., 77 Cuthelton Street, Glasgow, E.1; electrical installations—Sturrock Power Installations, Ltd., 40 St. Vincent Crescent, Glasgow, C.3; heating, ventilation, primary domestic hot water service and swimming pool installations—John Kerr and Wm. Kerr, Ltd., 10 Virginia Street, Greenock; insulation works—Kennedy Fisher, Ltd., 47 Fitzroy Lane, Glasgow, C.3; plumber work—James Wilson and Sons (Plumbers), Ltd., 15 Espedair Street, Paisley; metal windows, etc.—Frederick Braby and Co., Ltd., Petershill Road, Glasgow, N.; tile work—Tofolo Jackson and Co., Ltd., 110 West Regent Street, Glasgow, C.2; glazier work—George G. Kirk, Ltd., 9 Lawn Street, Paisley; vinyl tile and floor finishes—Semtex, Ltd., 53 Kelvin Avenue, Hillington, Glasgow, S.W.2; painter work—Deanston Decorators, 239-241 Maxwell Road, Glasgow, S.1; iron railings and gates—William Turner and Sons, 34 Arthur Street, Greenock.

Greenwich.—Erection of 14 garages with access road, at Bramhope Lane estate for B.C.—Direct Labour, £6,750 (recommended).

Halesowen, Worcs.—Conversion of two wards at Hayley Green Hospital for the Birmingham Regional Hospital Board—W. and J. Webb, Ltd., 257 Great King Street, Birmingham, 19, £4,483 (recommended).

Harrow, Middx.—Re-roofing the county primary school with Nuraphalte for C.C.—The Weatherhead Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

Hereford.—Restoring decayed stonework at Holme Lacy Hospital for the Birmingham Regional Hospital Board—Reparations—Dreyfus, Ltd., £2,817 (recommended).

Hertfordshire.—C.C. recommended to place the following contracts in connection with the schools programme: Standard steel frame—Hills (West Bromwich), Ltd., Albion Road, West Bromwich, Staffs.—1960-61 primary, £26,500; 1961-62 primary £10,000; 1962-63 primary, £71,700; 1961-62 secondary, £122,250; 1962-63 secondary, £167,900; 1962-63 further, £37,700. Heating installation—Weatherfoil, Ltd., 8 Marble Arch, London, W.1—1960-61 primary, £20,400; 1961-62 primary, £12,900; 1962-63 primary, £57,050; 1961-62 secondary, £115,000; 1962-63 secondary, £108,500; 1961-62 further, £54,400; 1962-63 further, £44,150; special services day school, £4,500.

Hastings, Sussex.—Following for B.C.: External painting of Elphinstone Infants'

Elphinstone Junior, All Saints' C. of E., St. Mary Star-of-the-Sea, St. Leonards C. of E. and the College of Further Education—Direct Labour (recommended). Estimated cost £2,270.

Site excavations for the Grammar School—Douglas Hamilton (Contractors), Ltd., North Farm Road, Tunbridge Wells, Kent, £7,686 (recommended).

Provision of two temporary classrooms at Woodlands Secondary School for Girls—Robert H. Hall and Co. (Kent), Ltd., Padock Wood, Kent, £2,370 (recommended, subject to reductions).

Provision of eight garages in traditional construction at Blackman Avenue—Direct Labour (recommended, subject to Ministry approval). Estimated cost £1,700.

Hoddesdon, Herts.—Extensions to the Health Centre at Rye Park, for C.C.—Roberts Oliver, Ltd., 79 High Road, Broxbourne, £5,509 (recommended).

Kerrier, Corn.—(a) External painting and incidental repair of 42 houses at Clifden Close, Mullion; (b) two high level water towers and tanks at Predannack, Ruan Minor, and Cross Common, The Lizard, for R.D.C.—(a) W. Casley, 29 Clifden Close, Mullion, £856; and (b) James Williams (Steeplejacks), Ltd., 28 Tyne-y-Parc Road, Whitechurch, Cardiff, £777.

Kerrier, Corn.—External painting and incidental repair of 42 houses, Clifden Close, Mullion, for R.D.C.—W. Casley, 29 Clifden Close, Mullion, £856. Work commenced.

Kettering, Northants.—Third and final phase of scheme for the reconstruction of Fire Brigade headquarters, comprising the erection of an administrative block over the appliance bays for C.C.—O. P. Drever and Son, Ltd., Round Hill Road, Kettering, £11,938.

Kingston-upon-Thames, Surrey.—Improvements at Norbiton estate for B.C.—Limpus and Sons (1952), Ltd., 67 Victoria Road, Surbiton, £57,090 (recommended).

Kirkcaldy, Fifes.—Erection of a messroom, store, convenience and shelter in Dysart cemetery for B.C.—James Gentles and Son, quantity surveyors, Osborne House, Kirkcaldy—George Smith and Sons, 2 Victoria Road, Kirkcaldy, £2,338.

Lancaster.—Erection of farm buildings, comprising (a) two semi-detached houses, (b) improvement and extensions to implement shed at Royal Albert Hospital for Manchester Regional Hospital Board—Thompson and Jackson, Ltd., St. Anne's Place, Moor Lane, Lancaster, £5,289 and £1,175, respectively (recommended, subject to Ministry approval).

Leeds.—Pointing work to walls at the rear of Market Hall for City Council—J. Wilby and Son, Ltd., Armley Road, Leeds, 12, £855 (recommended).

Leyton, Essex.—Supply and fixing of Weatherall Nuraphalte roofing at Leyton County High School for Girls for B.C.—Weatherall Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

Liverpool.—Following for City Council: Alterations, repairs and decorations at 14 Olive Street—Clayton and Dorsman, Ltd., 4-6 St. Bride Street, Liverpool, £776; renewal of the floor in the north lounge at the Police Training School, Mather Avenue—William Hall and Son, Ltd., Christian Street, Liverpool, 3, £1,247 (recommended).

Erection of 45 garages on five sites on the Kirby estate, including certain works ancillary thereto—Unit Construction Co., Ltd., Speke Boulevard, Liverpool, 24, £12,880; extension to surgery, 306a, Long Lane—R. J. Barton and Sons, Ltd., Altcar Road, Formby, £1,392 (recommended, subject to Ministry approval).

Erection of changing accommodation at Jericho Lane playing field—Rimmer Bros. (Liverpool), Ltd., South Parade, Speke, Liverpool, £19,493; erection of changing accommodation at Allerton Priory—Murray and Fowler, 3 Gerald Street, Liverpool, £16,047 (in lieu of previous tender) (both recommended).

Provision of swimming bath at Quarry Bank High School—Unit Swimming Pools, Ltd., 537 Stafford Road, Fordhouses, Wolverhampton, £22,232; erection of the Highfield Comprehensive Secondary School and the Anfield Comprehensive Secondary School—Morrison and Sons, Ltd., Grange Terrace, Liverpool, 15, £364,602 and £468,073, respectively (recommended, subject to M.E. approval).

Erection of an assembly hall and classroom block at Greystone Heath Approved School, near Warrington—Osborn and Co. (Warrington), Ltd., Thelwall New Road, Latchford, near Warrington, £73,740 (in lieu of previous tender, recommended, subject to Home Office approval).

Maidenhead, Berks.—Ancillary works at the Town Hall (stage 1) for B.C.—Charles Prior and Son, Maidenhead, £5,821.

Manchester.—Following for Regional Hospital Board: New ante-natal clinic at Withington Hospital—Harry Wimpenny and Sons, Ltd., Prestwich, Manchester, £34,686; roof insulation of the Board's headquarters' offices—Besdek Roofings, Ltd., Cranford Avenue, Sale, Cheshire, £2,597 (recommended, subject to Ministry approval).

Extension and improvement of telephone exchange at Withington Hospital—William Thorpe and Son, Ltd., Chester Road, Manchester, 16, £12,797 (recommended, subject to Ministry approval).

Mansfield, Notts.—Following for B.C.: Erection of workshops at Central Waterworks Depot—Adkin and Wild, Ltd., 1a Oxford Street, Sutton-in-Ashfield, £9,646; five garages at Bull Farm, and 23 at Ladybrook housing estates—Direct Labour, £908 and £3,192, respectively (recommended).

Middlesex.—Re-roofing The Cuckoo Hall County Primary School with Nuraphalte for C.C.—The Weatherall Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

New Forest, Hants.—Extension to the New Forest Motel for Watney-Lyon Motels, Ltd. Eridge and Rabson, architects and surveyors, 14-15 Queenhithe, London, E.C.4—General contractor—South Hants Building Co., Ltd., 285 Salisbury Road, Totton, Southampton: prefabricated structure—Vic Hallam, Ltd., Valley Works, Langley Mill, Nottingham; electrical work—Gratte Bros., Ltd., 13 Red Lion Square, London, W.C.1; heating, hot water, ventilation, etc.—Munford, Badley and Preston, Ltd., 22a Holdenhurst Road, Bournemouth.

Newton Aycliffe, Dur.—Erection of service industries building (stage 2) at Greenwell Road, Aycliffe, for Aycliffe Development Corporation—W. Porteous, Crawford Lea, 61 Cobden Street, Darlington, £7,085.

Northern Ireland.—Following for Housing Trust: External repainting of (a) 158 dwellings at Finaghy (section 2), and (b) 150 dwellings and six garages at Enniskillen—(a) Ernest Poole, 9 Moss Road, Newtownabbey, Co. Antrim; (b) E. P. Campbell, Garden City, Londonderry.

External repainting of (a) 248 dwellings, five shops, one housing manager's office and 17 garages at Dunmurry; (b) 138 dwellings at Bangor, and (c) 20 dwellings at Portavogie—(a) G. I. Morrison, 30 Slievenemeddy Avenue, Newcastle Co. Down; (b) Gilmore and Fitzpatrick, 147 Ligoniel Road, Belfast; (c) McBurney and Cowan, 144 Donegall Pass, Belfast.

Construction of six garages at Dunnigan (Drumcoo extension)—R. Patton and Sons, Church Street, Dungannon, Co. Tyrone.

Plumbing, electrical and patent tile flooring installations in 299 dwellings at Dunmurry (Conway)—plumbing—John Nelson (Ballymoney), Ltd., John Street, Ballymoney, Co. Antrim; electrical—Adair and Milliken, 1 Parkside Gardens, Belfast; patent tile flooring—the Marley Tile Co., Ltd., Hydepark, Mallusk.

External repainting of 239 dwellings, one housing manager's office, one shop and 15 garages at Braniel (set 2)—Ernest Poole, 9 Moss Road, Newtownabbey, Co. Antrim.

Nottingham.—Erection of a new training section at Beeston for Ericsson Telephones, Ltd.—F. Perks and Son, Ltd., P.O. Box 2, Long Eaton, Nottingham, estimated cost £60,000. F. S. Eales, company architect, and J. C. Barnsley, quantity surveyor, 30 Regent Street, Nottingham.

Nuneaton, War.—Improvements to pre-war houses in Waverley Avenue and Ivanhoe Avenue area for B.C.: (Contract 1) Messrs. Gardiners, Coventry, £15,686; (2 and 3) Parsons, Sherwin and Co., Ltd., Newdegate Street, Nuneaton, £18,094 and £8,152, respectively; 18 type A and 13 type F—Direct Labour, £8,319 (recommended).

Nuneaton, War.—Building work associated with new boiler house, etc., at George Eliot Hospital for the Birmingham Regional Hospital Board—G. E. and W. Wincott, Ltd., 64 Coton Road, Nuneaton, £3,489 (recommended).

Oswestry, Salop.—Rebuilding Ercall Ward at the Robert Jones and Agnes Hunt Orthopaedic Hospital for the Birmingham Regional Hospital Board—W. Watkin and Co., Ltd., 18 Oswestry Road, Oswestry, £53,972 (recommended).

Oswestry, Salop.—Erection of an old people's home at Morda Road for C.C.—John Hughes (Contractors), Ltd., 12a Holt Street, Wrexham, Denbighshire, £66,149 (recommended).

Poplar.—Adaptations at Cubitt Town Library for B.C.—Yates (Bow), Ltd., Fairfoot Road, London, E.3, £16,777 (recommended); Galbraith Bros., Ltd., £19,485; A. E. Symes, Ltd., £21,291; A. Roberts and Co., Ltd., £21,865; Y. J. Lovell (London), Ltd., £22,110; Falkus Bros., Ltd., £22,150; Com-

bined Contractors, Ltd., £22,567; Rowley Bros., Ltd., £22,822.

Portsmouth.—Following for City Council: Modernisation of 50 Orchard Road—F. E. Dugan, 1 Horsea Road, Portsmouth, £764 (recommended); R. W. Bailey, Ltd., £1,117; T. Coleborn and Son, £1,106; L. V. Evans, £1,142; J. Hibberd, £989; E. F. Hoy, £992; Henry Jones and Son, £1,041.

Modernisation of 19 Curzon Howe Road—F. E. Dugan, £605 (recommended); Ralph W. Bailey, Ltd., £716; J. A. Bell, £823; T. Coleborn and Son, £758; L. V. Evans, £780; J. Hibberd, £888; E. F. Hoy, £689; Henry Jones and Son, £772.

External painting of houses at sites 10 and 11, stage II of the 1961 programme—Achurch and Kniveton, 6 Lindon Grove, Gosport, £1,865 and £1,150, respectively (recommended).

Preston, Lancs.—Provision of new animal house at Royal Infirmary for Manchester Regional Hospital Board—Thomas Croft and Sons, Ltd., Holme Slack Works, Blackpool Road, Preston, £14,775 (recommended, subject to Ministry approval).

Radlett, Herts.—Following for C.C.: Repairs and adaptations at the Civil Defence training and social centre—Davies and Rentowl, Ltd., Victoria Works, Victoria Street, St. Albans, £5,530 (recommended, subject to Ministry approval).

Conversions and extensions to the branch library—Cockcroft and Preece, Ltd., St. Albans, £5,814 (recommended).

Royston, Herts.—Extension to the cottage at Steeple Morden to provide bathroom, w.c., etc., scheme 117, holding 1, for B.C.—W. A. and F. Bray, West End, Ashwell, £1,436 (recommended).

St. Ives, Hunts.—Improvements and repair to 22 houses in Ramsey Road for B.C.—Trevor Benton, 6 Potters Lane, Ely, Cambs., £3,784 (recommended, subject to Ministry approval); Hendry and Muggeridge, £5,841.

Salford, Lancs.—Provision of sanitary accommodation in surgical and medical wards at Royal Hospital for Manchester Regional Hospital Board—Henry Green and Son, Ltd., Stocks House, Cheetham, Manchester, £37,999 (recommended, subject to Ministry approval).

Sheffield.—Following for City Council: Erection of Park House Secondary School, Tinsley—J. F. Finnegan and Co. (Sheffield), Ltd., 847 Ecclesall Road, Sheffield, 11, £254,510; extensions to Myers Grove School, Malin Bridge—Direct Labour, £406,160 (recommended).

Shrewsbury, Salop.—Erection of an old people's home at Briarfields for C.C.—F. Galliers, Greenhill, Cophorhorne Road, Shrewsbury, £63,660 (recommended).

Solihull, War.—Exterior painting at Solihull Hospital and Catherine-de-Barnes Hospital for the Birmingham Regional Hospital Board—C. A. Chapman and Sons, Geach Street, Birmingham, 19, £3,028, and J. Patrick and Co., 115 Anderton Road, Birmingham, 11, £1,630, respectively (recommended).

Southall, Middx.—Repairs and redecorations at the West Middlesex adult training centre, Jubilee Park, for C.C.—Swainston and Son, Ltd., 60 Haydn Park Road, London, W.12, £1,204 (recommended).

Southport.—Erection of the pathological laboratory as stage II of the neurosurgical unit at the General Hospital for the Wessex Regional Hospital Board—G. E. Prince and Sons, Ltd., 24 Chapel Road, Southampton, £120,029. Work just commenced.

Southend-on-Sea, Essex.—Internal finishings for office block at Civic Centre site for B.C.—Gee, Walker and Slater, 100 Park Lane, London, W.1, £705,851 (recommended).

Stafford.—Exterior painting at Staffordshire General Infirmary for Birmingham Regional Hospital Board—F. and E. V. Linford, Ltd., Park Road, Cannock, £3,329 (recommended).

Stoke-on-Trent, Staffs.—Following for the Birmingham Regional Hospital Board: Provision of septic operating theatre suite at North Staffordshire Royal Infirmary—Sambrook (Burslem), Ltd., Hamil Road, Burslem, Stoke-on-Trent, £22,918; provision of cardiological department at City General Hospital—C. Cornes and Son, Ltd., Lichfield Street, Hanley, Stoke-on-Trent, £7,246 (recommended).

Strabane, Tyrone.—Erection of new Council offices for R.D.C.—T. A. Gamble, Dock Street, Strabane, £19,416. Work is expected to start next month.

Sunderland, Dur.—Extensions to oil storage installation on the Corporation Quay for Petrofina (Great Britain), Ltd.—William Press and Sons, Valley Street, North, Darlington, £234,000.

Taunton, Som.—Erection of Huish's Grammar School at South Road for Co. E.C.—F. and E. Small, Ltd., Priory, Taunton.

Thedwastre, Suffolk.—Improvement works to 56 houses at Walsham-le-Willows, 23 at

Badwell Ash and 22 at Rickinghall Inferior, for R.D.C.—Direct Labour, £11,434, £6,095 and £2,087, respectively.

Tring, Herts.—Provision of a new fire station for C.C.—F. W. Metcalfe, 100 Miswell Lane, Tring, £18,848 (recommended).

Waltham Cross, Essex.—Erection of a warehouse—William Moss and Sons, Ltd., North Circular Road, Cricklewood, London, N.W.2, estimated cost £147,000. H. A. Halpern and Partners, architects, and Raymond J. Playle, quantity surveyor, both of 58-60 Cannon Street, London, E.C.4, and H. L. Waterman and Partners, consulting engineers, 84 Eccleston Square, London, S.W.1.

Wandsworth.—Erection of a public convenience, street cleansing sub-depot and car park at Leigham Court Road for B.C.—R. H. Lynn and Co., Ltd., 49 Acme Lane, London, S.W.2, £19,448 (recommended); Parsons and Sons, £20,400; J. Garretts and Son, Ltd., £20,596; Whayatt Builders, Ltd., £20,787; Marshall-Andrew and Co., Ltd., £20,875; Walter Gladding and Co., Ltd., £20,877; W. R. Oldham, Ltd., £21,100; Poolman (Builders), Ltd., £21,220; M. J. Gleeson (Contractors), Ltd., £21,543; James Pavey, Ltd., £23,042.

Warwick.—Repair and redecoration to Shakespeare Ward at Central Hospital, Hatton, for the Birmingham Regional Hospital Board—T. Nicholson (Leamington), Ltd., 24 Regent Street, Leamington Spa, £2,698 (recommended).

Watford, Herts.—Following for C.C.: Extensions to the juvenile court and provision of additional office accommodation at the courthouse—G. Wiggs and Son, 117 St. Albans Road, Watford, £15,985 (recommended).

Erection of a youth wing at the Watford Victoria Girls' S.M. School—Jesse Mead, Ltd., 176 Berkhamsted Road, Chesham, Bucks, (recommended, negotiated tender, subject to Ministry approval). Estimated cost £13,753.

West Hartlepool, Dur.—Erection of church in Catcote Road for the Church of Jesus Christ of Latter Day Saints. G. T. Brown and Son, architects, 14 Grange Terrace, Stockton Road, Sunderland—Church Building Department, 6 Totham Crescent, Epsom Downs, £100,000.

Whitley Bay, Northumb.—Additions to bus garage for United Automobile Services, Ltd. F. G. Frizzell, architect, 80 Portland Place, London, W.1—Thomas Clements and Son, Selbourne Gardens, Newcastle upon Tyne. Work to start shortly.

Wigan, Lancs.—Construction of new warehouse at Kitt Green for H. J. Heinz Co., Ltd.—A. Monk and Co., Ltd., Padgate, Warrington. Estimated cost £475,000.

Wolverhampton, Staffs.—Following for the Birmingham Regional Hospital Board: Conversion of photographic department to provide X-ray and darkroom accommodation at the Royal Hospital—Nathan Hyde, 6 Claremont Road, Sedgley, £4,887; provision of prefabricated building for additional maternity and nursing accommodation at the Women's Hospital, and builders' work in connection with the project—Vic. Hallam, Ltd., Valley Mills, Langley Mills, Nottingham, £5,435, and E. Warren Baxter and Co., Ltd., Willenhall Road, Wolverhampton, £14,246, respectively; adaptations to convert 4 Vicarage Road into two flats for medical staff—W. Gough and Sons, Ltd., 129 Horsley Fields, Wolverhampton, £1,350 (recommended).

Worcester.—Following at Powick Hospital for the Birmingham Regional Hospital Board: Provision of nursing staff accommodation—Martin Wilesmith and Son, Ltd., Somers Park Avenue, Malvern, £50,132; alterations to chief male nurse's house—Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, Corn., £1,415; builders' work associated with provision of electric distribution mains—T. Oliver (Builders), Ltd., St. Martins Works, James Street, Worcester, £2,591 (recommended).

DEMOLITION

Caerphilly, Glam.—Demolition of 32 Commercial Street, Senghenydd, for U.D.C.—The Roath Demolition and Plant Hire (1961) Co., Ltd., 34 Wordsworth Avenue, Roath, Cardiff.

Cardiff.—Demolition of the following for City Council: Eglwys Dewi Sant—Roath Demolition and Plant Hire (1961) Co., Ltd., 34 Wordsworth Avenue, Cardiff, £850; 58-64 Union Street and 46-49 Tredgar Street—W. T. Davies, 12 Mill Road, Cardiff, £323 (recommended).

Chester.—Demolition of 37-41 Leadworks Lane for City Council—Engineers (Ruabon), Ltd., 45 King Street, Wrexham (recommended).

Coupar Angus, Perths.—Demolition of old buildings and clearance of site for B.C.—John Hutchinson and Sons, Ltd., Auchtermucht, £478.

Hastings, Sussex.—Demolition of premises at Mount Road for B.C.—R. W. Dicker and Co., Ltd., Hastings, to pay Council £55 (recommended, subject to Home Office approval).

Liverpool.—Demolition of cloisters on the north and south sides of the clock tower for City Council—W. Rainford, 11 Everton Valley, Liverpool, £391 (recommended).

Maidenhead, Berks.—Demolition of Ty-Gwyn for B.C.—J. Jarvis and Sons, Ltd., Luton, Beds., £122 (recommended).

ELECTRICAL

Birmingham.—Renewal of electricity supply, Taplow and Dixon Wards, at Yardley Green Hospital for Regional Hospital Board—Etna Lighting and Heating Co., Ltd., 293a Broad Street, Birmingham, I, £1,142 (recommended).

Bradford, Yorks.—Electrical installation work at Hanson Junior and Infant Schools for City Council—W. Pratt, 2 Clive Place, Bradford, 7, £1,484 (recommended).

Bromsgrove, Wors.—Electrical services for conversion of infectious diseases unit for staff use at Barnsley Hall Hospital for the Birmingham Regional Hospital Board—Abell and Smith's Electrical Co., Ltd., 5 Queen Street, Droitwich, £1,419 (recommended).

Croydon, Surrey.—Electrical re-wiring of Winterbourne Junior Boys', Junior Girls' and Infants' Schools, and Davidson Secondary Mixed and Infants' Schools, for B.C. Reid and Barrow, Ltd., 139 Masons Hill, Bromley, £5,242, and J. P. Sheen, Croydon, £3,720, respectively.

Dudley, Wors.—Electrical services associated with reorganisation of engineering services and boiler-house alterations at Burton Road Hospital for Birmingham Regional Hospital Board—Whittaker Bros., Ltd., Dudley, £1,038 (recommended).

Ealing, Middx.—Following for B.C.: Tenders received for the renewal of electrical installations at Drayton Infants' School—Buchanan and Curwen, Ltd., £975; Colwood Electrical Installations, Ltd., £670; Electra Services, £1,087; Hansell (Electrical), Ltd., £790; Liberty Electrical Co., Ltd., £728; Machinery Installations, Ltd., £1,166; Dennis Pollen and Co., Ltd., £927; and at Perivale Junior and Infants' Schools—Buchanan and Curwen, Ltd., £2,946; Colwood Electrical Installations, Ltd., £1,955; Hanwell (Electrical), Ltd., £2,735; Liberty Electric Co., Ltd., £2,317; Machinery Installations, Ltd., £4,338; Dennis Pollen and Co., Ltd., £2,793; and F. W. Spencer and Son, Ltd., £2,126.

Relighting and rewiring at Stanhope Junior and Infants' Schools—Brunel Electro Installation, Ltd., £1,894; Electro Service, £1,546; Electrical Contracting Co., £1,867; Machinery Installation, Ltd., £2,869; and Ward and Paterson, Ltd., £2,268.

Guildford, Surrey.—Installation of electricity and lighting at the roads and yards of the depot and vehicle repair workshops, for B.C.—B. and S. Electrical Contractors, Ltd., 1 Bridge Street, Guildford, £766 (recommended).

Kidderminster, Wors.—Installation of bell system in old people's bungalows around Truro Drive for B.C.—J. B. Gilbert, Abergavenny Crescent, Kidderminster, £666 (recommended, subject to C.C. approval).

Macclesfield, Cheshire.—Installation of new bed lift in female wards at Parkside Hospital for Manchester Regional Hospital Board—George Roylance and Co., Ltd., Waters Green, Macclesfield, £6,618 (recommended, subject to Ministry approval).

Manchester.—Installation of fire alarm system at Crumpsall Hospital for Regional Hospital Board—Engineering Service Co., Albion Works, Bolton, £5,865 (recommended, subject to Ministry approval).

Rochdale, Lancs.—Installation of bed lift at Wolsenholme Hospital for Manchester Regional Hospital Board—Lear and Heywood, Ltd., Law Street, Rochdale, £7,466 (recommended, subject to Ministry approval).

Salford, Lancs.—Replacement of bed lift for medical wards at Royal Hospital for Manchester Regional Hospital Board—Matthew Cowan, Ltd., 20 Gallemore Street, Salford, 7, £5,854 (recommended, subject to Ministry approval).

Stoke-on-Trent, Staffs.—Following for City Council: Electrical ring main distribution system at North Staffordshire Royal Infirmary—H. Pratt, Ltd., Potters Lane, Aston Cross, Birmingham, 6, £26,382; electrical services for septic operating theatre suite at North Staffordshire Royal Infirmary and cardiological department at City

General Hospital—Tomlins, Ltd., 264 High Street, Tunstall, Stoke-on-Trent, £2,122 and £945, respectively (recommended).

Walsall, Staffs.—Electrical services for adaptations to casualty department at General (Sister Dora) Hospital for the Birmingham Regional Hospital Board—W. Dicker and Co. (Heating Engineers), Ltd., 187 Wolverhampton Street, Dudley, £3,071, and Birch Evans and Jellings, Ltd., 242 Stafford Street, Walsall, £1,575 (recommended).

Whitchurch, Heref.—Electrical services for reorganisation of kitchens at Deer Moss Hospital for Birmingham Regional Hospital Board—H. Palfrayman, Ltd., 8 Northwood Park Road, Northwood, Hanley, Stoke-on-Trent, £771 (recommended).

Wolverhampton, Staffs.—Electrical services for additional maternity and nursing accommodation at the Women's Hospital for the Birmingham Regional Hospital Board—C. A. and W. J. Postings, Union Street, Wolverhampton, £1,803 (recommended).

Worcester.—Following for Birmingham Regional Hospital Board: Electrical services associated with improvements to nurses' home and provision of nursing staff accommodation at Powick Hospital—National Electric Engineering Co. (Birmingham), Ltd., Poplar Road, Dorridge, Knowle, Solihull, £2,632, and Lee Beesley and Co. (Birmingham), Ltd., Bath Row, Birmingham, 15, £3,286, respectively; provision of electric mains distribution system at Ronkswood Hospital—Midlands Electricity Board, £12,735 (recommended).

FENCING

Brentford and Chiswick, Middx.—Supply and erection of chain link and concrete panel fencing to schools and school playgrounds for B.C.—Peerless Fence and Products, Ltd., Priory Avenue, Harefield, Uxbridge, Middx., £1,979, and Metropolitan Concrete Works, Ltd., East Molesey, Surrey, £752, respectively. Work commenced.

GAS AND WATER SUPPLY

Bradford, Yorks.—Scraping and lining with bitumen of 1,400yd. of 6in. water main along Beacon Road, and lengths of water mains in Canal Road, etc., for City Council—General Descaling Co., Ltd., 22 Queen Anne's Gate, London, S.W.1, £1,068 and £2,057, respectively (recommended).

Dungannon, Tyrone.—Laying of water main from Donaghmore to Coalisland for R.D.C.—J. Donnelly and Sons, Coalisland, £8,352.

Hastings, Sussex.—Supply of 800yd. of 4in. and 1,600yd. of 3in. asbestos-cement pressure pipes for Firehills estate for B.C.—Turners Asbestos Cement Co., Ltd., Everite House, 59½ Southwark Street, London, S.E.1, 10s. 6d. and 7s. 10d. per yd., respectively.

Liverpool.—Supply of three 18in. valves and one 6in. valve, together with the associated pipework, to replace the outlet valves on the Yarrow reservoir, Rivington, for City Council—Guest and Chrimes, Ltd., Rotherham, £3,145 (recommended).

Ross and Cromarty.—Lewis water supplies, group E, Callanish area for C.C.—Wm. Tawse, Ltd., Carse, Inverness.

Scotland.—Laying of a gas pipeline on the Tay railway bridge for Scottish Gas Board—Taylor Woodrow Construction, Ltd., Southall, Middx. Estimated cost £100,000. Work commenced.

Wigton, Cumb.—Construction of a new reservoir at Low Akeaton and the laying of a new water main from Fletchertown to Balladole, near Silloth, for R.D.C.—Border Engineering Contractors, Ltd., 125 Queen Street, Whitehaven, £148,624 (subject to Ministry approval).

HARBOURS, PIERS AND SEA DEFENCE WORKS

Colchester, Essex.—Extension of the Elevator Quay at The Hythe for B.C.—J. S. Orchard, borough engineer—May, Gurney and Co., Ltd., Trowse, Norwich, £9,886. Work commenced.

Frinton and Walton, Essex.—Construction of (a) Cliff retaining walls, Southcliff Promenade, Walton-on-the-Naze, and (b) parapet coping, High Wall Promenade, Frinton-on-Sea, for U.D.C.—J. H. Jordan, engineer and surveyor—(a) May, Gurney and Co., Ltd., Trowse, Norwich, £2,954, and (b) G. Tate and Son, Ltd., 26 Finsbury Square, London, E.C.2, £29,316 (subject to Ministry approval). Work to commence Oct.

HEATING AND VENTILATING

Birmingham.—Installation of immersion heater systems in 1,000 dwellings and back boiler type systems in 2,000 dwellings for City Council—Midlands Electricity Board and Toogood, Ltd., Birmingham.

Bradford, Yorks.—Following for City Council: Conversion of coke-fired boiler at Traffic and Communications Division Headquarters, Bolling Road, to oil firing—F. L. Sanderson and Son, Ltd., 36 City Road, Bradford, 8, £1,659; modifications to flow connections from two heating calorifiers at Bradford Institute of Technology—J. W. Hammond, 41 Reeve Avenue, Bradford, 6, £880; installation of new heating boilers at Linton Special School and St. Patrick's R.C. Boys' School—Brightside Heating and Engineering Co., Ltd., 40 North Parade, Bradford, 1, £1,160 and £527, respectively; installation of new heating boilers at Ravenscliffe Infants' School—J. W. Hammond, Bradford, £720 (all recommended).

Brentford and Chiswick, Middx.—Installation of wash-hand basins, hot water supply and electric power points at Pinkham Mansions and Erncroft estate, for C.C., plumbing works—Swainston and Son, Ltd., 60 Hadyn Park Road, London, W.12, £1,721, and T. J. Messom and Sons, Grosvenor Road Works, Twickenham, £1,567; electrical installations—Electrical Contracting Co., rear of 19 Station Parade, London, W.5, £7,300, and Southern Electricity Board, £50, respectively (recommended).

Bromsgrove, Worcs.—Mechanical services for conversion of infectious diseases unit for staff use at Barnsley Hall Hospital for the Birmingham Regional Hospital Board—H. Clark and Son, 656a Allesley Old Road, Coventry, £4,444 (recommended).

Darlington, Dur.—Mechanical engineering services in connection with pathological department at Memorial Hospital for Newcastle Regional Hospital Board—J. T. Leake and Co., Ltd., Back Hanover Square, Newcastle upon Tyne, £10,888.

Dudley, Worcs.—Provision and installation of chain grate stokers and automatic control in boiler house at Burton Road Hospital for Birmingham Regional Hospital Board—Edwin Danks and Co. (Oldbury), Ltd., Brierley Hill, £2,707 (recommended).

Halesowen, Worcs.—Mechanical services for conversion of two wards at Hayley Green Hospital for the Birmingham Regional Hospital Board—Ducat Heating Co., Ltd., Platts Crescent, Amblecote, Stourbridge, £1,404 (recommended).

Hastings, Sussex.—Supply of burners and refractory linings for the conversion of the boilers at White Rock Pavilion to oil burning for B.C.—Brockhouse Heaters, Ltd., London, W.1, £767 (recommended).

Lichfield, Staffs.—Installation of third boiler at St. Matthew's Hospital, Burntwood, for Birmingham Regional Hospital Board—Brightside Heating and Engineering Co., Ltd., 17 Summer Row, Birmingham, 3, £1,425 (recommended).

Liverpool.—Following for City Council: Supply and installation of oil burning equipment for boiler 2 at Burroughs Garden baths and public laundry—Steam Users' Technical Services, Ltd., Prudential Buildings, Union Street, Oldham, £1,995; interconnecting two existing heating boilers and two new accelerators at Westminster House—C. R. Honiball and Co., Ltd., 32 Cleveland Square, Liverpool, 1, £795 (both recommended).

Nuneaton, War.—Renewal of heating apparatus in Stockingford County School for B.C.: Heating engineering work—Brightside Heating and Engineering Co., Ltd., 17 Summer Row, Birmingham, 3, £8,655; builders' work—A. J. Ward, £1,319 (recommended).

Ryton, Dur.—Heating installation at Ryton Modern School for C.C.—Hugh Stephenson, Ltd., Gateshead, £4,106.

St. Albans, Herts.—Conversion of the existing heating system to oil firing at the Beaumont S.M. School for C.C.—T. A. Bickerton and Son, Oak Yard, Waverley Road, St. Albans, £5,268 (recommended).

Stoke-on-Trent, Staffs.—Mechanical services for septic operating theatre suite at North Staffordshire Royal Infirmary and cardio-logical department at City General Hospital for the Birmingham Regional Hospital Board—Truswell and Son, Ltd., Vessey Terrace, Newcastle, Staffs., £7,609 and £1,691, respectively (recommended).

Sunderland, Dur.—Heating installation at Rvhope Richardson Grammar School for C.C.—Steel Engineering Installations, Ltd., Sunderland, £26,235.

Whitchurch, Herefs.—Provision of mechanical services and kitchen equipment associated with modernisation of kitchens at Deerwood Hospital for Birmingham Regional Hospital Board—Frogatt and Prior, Ltd., 16 Lionel Street, Birmingham, 3, £5,597 (recommended).

Wolverhampton, Staffs.—Following for Birmingham Regional Hospital Board: Installation of package-type boiler at New Cross Hospital—Norris Warming Co.,

Ltd., 62 Lionel Street, Birmingham, 3, £4,050; mechanical services for provision of additional maternity and nursing accommodation at the Women's Hospital—Ducat Heating Co., Ltd., Platts Crescent, Amblecote, Stourbridge, £4,403 (recommended).

Worcester.—Mechanical services associated with improvements to nurses' home and with provision of nursing staff accommodation at Powick Hospital for the Birmingham Regional Hospital Board—Brightside Heating and Engineering Co., Ltd., 17 Summer Row, Birmingham, 3, £905 and £3,553, respectively (recommended).

HOUSING SCHEMES

Banstead, Surrey.—Two hundred and forty-two dwellings at Chapel Way, near Tattenham Corner, for U.D.C.—S. G. and A. Agombar, 109 Elmers End Road, Beckenham, Kent, £545,000. William Crabtree, Tadworth is the architect and E. C. Harris and Partners, Lynton House, Tavistock Square, London, W.C.1, are the quantity surveyors for the scheme. Work about to commence.

Basingstoke, Hants.—Four hundred and thirteen dwellings, 264 garages, service roads and footpaths at South Ham housing estate (part 35th, 36th, 37th and 38th instalments) for B.C.—E. Almond, borough architect—J. Anderson and Sons (Building Contractors), Ltd., Boundary Place, Sevenoaks Road, Orpington, Kent, £912,800 (subject to Ministry approval).

Cardiff.—Following for City Council: Caretaker's house at Penyholme County Primary School—Frank Batty and Smith, Ltd., 64 System Street, Cardiff, £2,607; houses at R.A.F. site, Caerau, group 1—75 dwellings and 27 garages and group 4—75 dwellings—Direct Labour, £148,156 and £130,343; group 2, 92 dwellings and 54 garages and group 5—G. E. Wallis and Sons, Ltd., Cambrian Chambers, Cambrian Road, Newport, £220,286 and £113,995; group 3, 21 dwellings—J. and H. Bradford, Ltd., 354/58 The Arches, East Dock, Cardiff, £38,219 (recommended).

Carlisle, Cumb.—Forty flats at Morton estate for City Council—Direct Labour, £42,671 (recommended).

Chatham, Kent.—Erection of dwellings and garages at 1-21 and 2-48 Downsview, 1-8 Holly Close, and 1-10 Ash Close for C. J. Howard and Son, Ltd. K. Dod, architect, 43 Doughy Street, London, W.C.1—Direct Labour.

Chester.—Forty-four houses at Blacon for City Council—Thomas Warrington and Sons, Ltd., 82 Station Road, Ellesmere Port, Cheshire, £94,475 (recommended, subject to Ministry approval).

Cranbrook, Kent.—Twenty-three dwellings and 23 garages at Freight estate, 18 dwellings and 16 garages at All Saints estate and six dwellings and 15 garages at Cleavers estate, for R.D.C.—K. Barnes, architect—William Ellis (Etchingham), Ltd., Etchingham, Sussex, £44,139, £36,812 and £12,172, respectively. Work to commence September.

Crawley, Sussex.—Eighty-five houses, 15 flats and 140 garages at various sites in the New Town for the Development Corporation—G. T. Crouch, Ltd., Stephenson Way, Three Bridges, Crawley, £235,312. Work to commence shortly.

Cumberland.—Erection of four police houses at Whitehaven, and rural police stations at St. Bees and Thornhill for C.C.—Cumbria Contractors, Ltd., Whitehaven, £20,000.

Disley, Cheshire.—Fourteen bungalows at Stanley Terrace/Buxton Road for R.D.C.—Hall Bros., Ollersett Works, Hayfield Road, New Mills, near Stockport, £22,894. Work commencing Aug. 8.

Diss, Norfolk.—Thirty-nine permanent brick dwellings on the housing estate at Skelton Road, situated between Victoria Road and Frenze Road for U.D.C., consisting of 27 houses in five blocks and one block of 12 maisonettes. A. F. Scott and Sons, architects, 23 Tomblane, Norwich—Aves (Builders), Ltd., Redgrave, Diss, £62,492. Work commencing shortly.

Driffield, Yorks.—Six bungalows and six houses at Nafferton, for R.D.C. S. Wriggworth, surveyor—S. Rudd and Son, Station Road, Nafferton, £21,262.

Dungannon, Tyrone.—Eight four-apartment houses at Annaghmore, Coalisland, for R.D.C.—P. McGrath and Co., Ltd., Dungannon, £12,696.

Epsom and Ewell, Surrey.—Six one-bedroom flats at The Kingsway, Ewell, for B.C.—Uden and Co. (Epsom), Ltd., 53 South Street, Epsom, £13,689.

Essex.—Schoolkeeper's house at Colchester Monkwick County Secondary School for C.C. H. Conolly, county architect—Pudney and Son, Ltd., Colne Engayne, Colchester, £2,847. Work commenced.

Exeter, Devon.—Seven houses, two flats, seven garages and site works on site at police headquarters for City Council—Ernest Preston and Son, Ltd., Clystlands, Station Road, Broadclyst, Exeter, £28,515 (recommended).

Fulham.—Extension of Ethel Rankin Court with a three-storey block of nine flats on site of Fontein, Fulham Park Road, for B.C.—Geo. S. Garner and Son (Builders), Ltd., 108 Greyhound Road, Fulham, £23,208 (recommended); W. J. Marston and Son, Ltd., £23,788; E. C. Lacy and Co., Ltd., £23,885; Tersons, Ltd., £25,353; Rowley Bros., Ltd., £28,477; Kirk and Kirk, Ltd., £29,568.

Gelligaer, Glam.—Six bungalows and incidental road works at The Drive, Gilfach, Bargoed, for U.D.C.—S. E. Jones, The Woodlands, Park Drive, Bargoed, £11,598. Work to commence September.

Hastings, Sussex.—Five police houses at Mount Road/Clive Avenue, and a police reporting room at Frederick Road for B.C.—P. F. Chittenden and Co., Old Roar Road, St. Leonards-on-Sea, £13,440 (recommended, subject to Home Office approval).

Hertfordshire.—Erection of nurses' houses and garages at Reed and Hare Street for C.C.—C. Harris and Sons, The Folly Buildings, Baldock Road, Buntingford, £6,500 (recommended).

Hitchin, Herts.—Provision of a dwelling house for holding 6 at Westmill Farm for C.C.—Bunyan Bros., 4 Rector Lane, Watton-at-Stone, £2,864 (recommended).

Jarrow, Dur.—Twenty-seven flats and maisonettes and four houses in High Street, 16 houses near Spenser Street, and four shops and maisonettes on the Hedworth estate for the B.C. H. W. T. Perkins, Borough engineer—Direct Labour.

King's Langley, Herts.—Provision of a dwelling house at holding 8 for C.C.—Bunyan Bros., 4 Rector Lane, Watton-at-Stone, £2,994 (recommended).

Leeds.—Balustrading and terrazzo glazed wall tiling and quarry tile paving for erection of four-storey maisonettes at Ebor Gardens, Lincoln Green and New Carlton for City Council—Walson Engineering Co. (Leeds), Ltd., Phoenix Works, Chalde Lane, Wakefield, and A. Andrews and Son, Ltd., Railway Street, Leeds, 9, respectively.

Leicester.—Two hundred and fifty-nine Easi-form dwellings at Thurnby Lodge for City Council—John Laing (Construction), Ltd., Mill Hill, London, N.W.7, £349,901 (recommended).

Limavady, Londonderry.—Two hundred and forty-eight houses at Irish Green Street for U.D.C.—J. and H. E. Doherty, Ltd., Cole-raine, £400,799.

Liverpool.—Eight houses at Beaufort Street—G. H. Smith (Liverpool), Ltd., Finvoy Road, Liverpool, 13, £27,607 (recommended, subject to Ministry approval).

Middlesbrough, Yorks.—Thirty-one houses, two flats and 11 garages on the Easterside estate for the B.C.—J. A. Kenyon, borough engineer—Emco (Builders), Ltd., Kings Road, North Ormesby, Middlesbrough, £57,500.

Nuneaton, War.—Forty-eight houses on sites 6 and 9 at Camp Hill estate for B.C.—Garlicks, Ltd., 42 Far Gosford Street, Coventry, £107,991 (recommended).

Ossett, Yorks.—Housing development at Crownlands for B.C.—Abbots (Sharlston), Ltd., Tower Lodge, Tower Lane, Crofton, £16,950 (recommended).

Poplar.—Fifteen maisonettes, 27 flats and old people's meals service kitchen and dining club at Newby Place (block J) for B.C.—Griggs and Son, Ltd., 56 Victoria Street, London, S.W.1, £88,600 (recommended); A. E. Symes, Ltd., £91,169; M. J. Gleeson, Ltd., £92,011; Falkus Bros., Ltd., £95,231; Rowley Bros., Ltd., £95,785; Tersons, Ltd., £97,682; J. Murphy and Sons, Ltd., £103,270.

St. Austell, Corn.—Sixteen flats and eight garages at Blowinghouse Lane for U.D.C. H. G. King, engineer and surveyor—Selleck, Nicholls and Co., Ltd., East Hill, St. Austell, £28,386.

Salford, Lancs.—Erection of 24 old people's flats at Tethow Lane, Higher Broughton, for Manchester Jewish Housing Association—P. Hamer, Ltd., Park Street, Swinton, near Manchester. Eric Levy, architect, Victoria Building, 32 Deansgate, Manchester, 3, and Frank Hyams and Partner, 28 Queen Street, Manchester, 2, are the quantity surveyors.

Strabane, Tyrone.—Thirty houses and garages at Ballyfattan for R.D.C.—J. A. Gamble, Dock Street, Strabane, £53,152.

Thedwastre, Suffolk.—(a) One pair of houses and (b) one pair of bungalows at Rattlesden, and (c) three pairs of bungalows at Thedwastre Close, Elmswell, for R.D.C.—Slater Bros. (Glemsford), Ltd., Glemsford, Sudbury, Suffolk, (a) £6,556, and (b) £9,593.

Wandsworth.—Three hundred and eight dwellings, with roads, sewers, etc., on a 12½-acre site at Edgecombe Hall, Southfields, for B.C.—Pauling and Co., Ltd., 26 Victoria Street, London, S.W.1, £1,177,666 (recommended, subject to Ministry approval).

Further 80 dwellings on William Willison estate for B.C.—Pauling and Co., Ltd., £253,032 (recommended, negotiated contract).

Sixteen houses at junction of Daysbrook Road and Wavertree Road, Streatham, for B.C.—R. H. Lynn and Co., Ltd., 49 Acre Lane, London, S.W.2, £50,214 (recommended, amended tender); M. Howard (Mitcham), Ltd., £50,304; R. H. Lynn and Co., Ltd., £50,751; A. T. Chown and Co., Ltd., £51,009; Robert Hart and Sons, Ltd., £51,814; C. Ash and Son, Ltd., £53,580.

Eleven flats at Hopton Road sites, Streatham, for B.C.—R. H. Lynn and Co., Ltd., £37,425 (recommended); Marshall Andrew and Co., Ltd., £39,135; Kentlea, Ltd., £39,371; W. R. Oldham, Ltd., £39,650; Robert Hart and Sons Ltd., £39,925; M. J. Gleeson (Contractors), Ltd., £40,073; Walter Gladding and Co., Ltd., £40,720; Whayatt (Builders), Ltd., £41,747; A. T. Chown and Co., Ltd., £41,957.

Workington, Cumb.—One hundred and twenty houses for B.C.—Thomas Armstrong, Ltd., South Street, Cockermouth, £156,058 (recommended, negotiated tender).

MATERIALS AND SUPPLIES

Cardiff.—Supply of scaffolding for City Council—Scaffolding (Gt. Britain), Ltd., Sloper Road, Cardiff, £910 (recommended).

Worthing, Sussex.—Supply of sea defence timber for B.C.—Messers, Ltd., Finsbury House, Blomfield Street, London, E.C.2, £6,256 (recommended).

PLANT AND MECHANICAL TRANSPORT

Bexhill-on-Sea, Sussex.—Supply of following for B.C.: One Dennis Paxit II refuse collection vehicle—Dennis Bros., Ltd., Guildford, Surrey, £3,135 (recommended, subject to Ministry approval).

Two 15cwt. Ford Thames trucks—Candor Motors (Braintree), Ltd., £952, including £80 allowance for old vehicles (recommended).

Burton-upon-Trent, Staffs.—Supply of mechanical loader in connection with remodelling of engineering services at Andressey Hospital for the Birmingham Regional Hospital Board—E. Boydell and Co., Ltd., Eagle Works, Old Trafford, Manchester, 16, £1,590 (recommended).

Carlisle, Cumb.—Supply of: (a) 5cwt. van and towing tower wagon; and (b) mobile tower

wagon for City Council—(a) J. A. Stitt and Sons, 14 Lowther Street, Whitehaven, £381 and £385, respectively; and (b) County Garage Co., Ltd., Hardwicke Circus, Lowther Street, Carlisle, £1,430 (recommended).

Chester.—Supply of two Bedford 3-ton lorries for City Council—Chester Engineering Co., Ltd., Bedford Works, Boughton, Chester, £926 each (recommended).

Croydon, Surrey.—Installation of a 1-ton Comparator to be used for checking the weight of 1-ton blocks used for testing the weighbridge at Mitcham Road, for B.C.—W. W. and T. Avery, Ltd., 93 Brighton Road, Redhill (recommended). Estimated cost £750.

Ealing, Middx.—Supply of following for B.C.: One Fordson van—Norman Reeves (Motors), Ltd., 215 High Street, Uxbridge, £420; one sewer flushing vehicle—Metering Pumps, Ltd., 21 The Mall, London, W.5, £3,850; two mechanical road sweepers—Rootes, Ltd., Devonshire House, Piccadilly, London, W.1, £6,213; one gully emptier (including hose)—Shelvoke and Drewry, Ltd., Letchworth, Herts., £2,965 (recommended).

Tenders received for the replacement of vehicles and machinery, 1960-61: two 15cwt. pick-ups—Campbell Symonds, Ltd., £948; W. H. Perry, Ltd., £1,092; and A. S. Andrews, £1,177; 1961-62 two lorries—Shelvoke and Arden, £2,310; J. Gibbs, Ltd., £2,328; Car Mart, £2,361; and parks machinery—Relf and Kendall, £881; J. Gibbs, Ltd., £885; R. H. Andrews, £889; T. Parker and Sons, £942; and Huxleys Agri. Machinery, £945.

Epsom and Ewell, Surrey.—Supply of one TPF 120 compressor together with two paving breakers, a backfill and the necessary hose, steel and cutters, for B.C.—Ingersoll-Rand Co., Ltd., 165 Queen Victoria Street, London, E.C.4, £1,268.

Fulham.—Supply of an Austin 5-ton tipping lorry, complete with specified accessories, for B.C.—Commercial Motor Garage and Repair Co., Ltd., 255-265 Kingston Road, London, S.W.19, £1,216 (recommended, after allowance for old truck).

Hastings, Sussex.—Supply of one Ford Thames diesel-engined 4-ton semi-forward control tipping truck for B.C.—J. Hollingsworth, Ltd., Braybrooks Road, Hastings, £1,111, less £25 allowance for old vehicle (recommended).

Kidderminster, Wores.—Supply of chassis and cabs for one 25cwt. and one 35cwt. Bedford vehicles—Stanley Goodwin and Sons, Ltd., Kidderminster, £1,185, less £110 part exchange allowance on a Bedford 10cwt.

pick-up; two low-loader bodies complete with automatic tipping gear—Welford Engineering (Oldbury), Ltd., Tipton, £433 (recommended).

Liverpool.—Supply of following for City Council Three Morris Commercial L.D.4 type one-ton vans and two Austin Commercial L.D.5 type 1½-ton vans—W. Watson and Co (Liverpool), Ltd., 89-93 Renshaw Street, Liverpool, 1, £1,966 and £1,253, respectively; one Bedford horse-box—Garrick, Burrell and Edwards, Ltd., Renshaw Street, Liverpool, 1, £2,505; Track Marshall crawler tractor—T. W. Ward, Ltd., Sheffield, £2,920; one 7-ton Commer Karrier wagon—Sandon Motor and Engineering Co., Ltd., 45 Old Hall Street, Liverpool, 3, £1,550; one 3-ton Ford Thames wagon—A. W. Webb, Ltd., Berry Street, Liverpool, 1, £787; one 3-ton Ford Thames Trader wagon—Thomas S. Whitney and Co., Ltd., 279-283 Scotland Road, Liverpool, 5, £955; 2.2 litre 1½ tons Austin diesel van, in grey primer, complete with spare wheel, passenger seat, flashing indicators, heater and de-mister and number-plates, and an Austin 404 four-ton diesel chassis/cab, complete with rear shock absorbers, roof insulation and number-plates—Voss Motors, Ltd., Hanover Street, Liverpool, 1, £796 and £846, respectively (all recommended).

Maidenhead, Berks.—Supply of one refuse freighter and one Bedford 3-ton lorry for B.C.—Shelvoke and Drewry, Ltd., Letchworth, Herts., £2,940, and Gregory's of Maidenhead, Ltd., Braywick Road, Maidenhead, £956, respectively (recommended).

Mansfield, Notts.—Supply of a Broomade WR120 oil-cooled whirlwind uniflow rotary air compressor and an Austin 5-ton lorry for B.C.—Broom and Wade, Ltd., High Wycombe, Bucks., £1,050, and Lucas of Mansfield, Ltd., Nottingham Road, Mansfield, £842, respectively (recommended).

Midhurst, Sussex.—Supply of one wheeled tractor shovel for R.D.C.—Chaseside Engineering Co., Ltd.—Station Works, Hertford £3,845.

Millom, Cumb.—Supply of one Dennis 18/20 cu. yd. two-way tipping refuse collection vehicle for R.D.C.—J. H. Bennett, Central Garage, Millom, £2,860.

Ramsey, I. of M.—Supply of a refuse collection vehicle for B.C.—Raymotors, Ltd., 83 Parliament Street, Ramsey, £1,075.

Tynemouth, Northumb.—Supply of a 10/7 high discharge concrete mixer (tilting type, diesel powered) for B.C.—The Liner Concrete Machinery Co., Ltd., Park Road, Gateshead, 8, £667.

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Bradford, Yorks. — Laying of a Redgra all-weather football pitch at Myra Shay Playing Fields for City Council—En-Tout-Cas Co., Ltd., Syston, Leicester, £4,028 (recommended).

Chester. — Construction of a children's playground, cycle track and footpaths at Newton Hall Estate Playing Field for City Council—J. W. Flather, Ltd., Grosvenor Street, Ellesmere Port, £3,405 (recommended).

Ealing, Middx. — Following for B.C.: Tenders received for the re-grading of Marnham's Field and land off Bridge Avenue—H. L. Holdrup and Sons, Ltd., £25,184; E. Doe and Sons, Ltd., £25,975; Groundwork, Staines, £25,988; J. S. Bishop and Co., Ltd., £26,466; J. P. McCarthy and Co., £28,503; A. J. Ward, £30,416; Sherwood Bros., Ltd., £31,506; Willmett Bros., £31,690; Gait Construction, Ltd., £33,850; Turfsoil, Ltd., £35,005; Scott and Tilling, £35,625; Norman Hill, £35,727; Sportswork, Ltd., £37,269; and Costelloe Plant Hire, £47,019.

Conversion of tennis courts at Ravenor Park—Maxwell M. Hart, Ltd., £4,775; J. S. Bishop and Co., £4,968; Grassphalte, Ltd., £5,114; W. H. Gaze and Sons, £5,317; En-Tout-Cas, Ltd., £5,403; and E. Doe and Sons (Contracts), Ltd., £5,603.

Development of northern portion at Claypools Recreation Ground—Sherwood Bros. (Agri Service), Ltd., £3,358; E. Doe and Sons (Contracts), Ltd., £3,167; C. E. Woorders and Sons, Ltd., £3,691; J. S. Bishop and Co., Ltd., £3,710; Kraft Construction, Ltd., £3,866; James Cooper (Construction), Ltd., £4,268; Turfsoil, Ltd., £4,705; and Grassphalte, Ltd., £4,792.

Drainage and fencing on land lying between Greenford Grammar School and Allenby Road—S. T. Jagger and Sons, Ltd., £1,855, and Parr-Head and Clements Knowling, Ltd., £1,409.

Layout of garden at Aston School—J. R. Barralet, £870; Waterer, Sons and Crisp, £832; and Webb and Co., £1,367.

Layout of grounds at Northolt Park Infants' School—J. S. Bishop and Co., Ltd., £1,358; Grassphalte, Ltd., £1,799; Greensward (Contracts), Ltd., £1,070; Maxwell M. Hart (London), Ltd., £1,940; Kimball Contractors, Ltd., £1,171; Sherwood Bros. (Agri Service), Ltd., £1,520; and Turfsoil, Ltd., £1,370.

Sheffield. — Laying-out playing fields at the Park House Secondary School, Tinsley, for City Council—En-Tout-Cas Co., Ltd., Syston, Leicester, £15,360 (recommended).

RAILWAY ENGINEERING

British Railways. — Following contracts placed: Eastern Region:

Supply and installation of one sleeper de-chairing conveyor at Chesterton Junction Central reclamation depot—Paterson Hughes Engineering Co., Ltd., Bedford House, Bedford Street, Strand, London, W.C.2.

Repairs to brickwork of bridge 212 under main lines, between Little Bytham and Corby Glen—Thomas Fletcher and Co., Ltd., Forest Road, Mansfield, Notts.

Cleaning and painting of bridges and overhead signal masts, between Dunford Bridge Station and Darnall Station—Arundel Painting Contractors, Ltd., 3 Edward Street, Louth, Lincs.

Provision and driving of steel sheet piling, between Hedge Hall and Althorpe—W. and C. French, Ltd., Buckhurst Hill, Essex.

Cleaning and painting of station buildings and structures at Leigh-on-Sea, Chalkwell and Pitsea—D. P. O'Neill, Ltd., 196 Camden Road, London, N.W.1.

Cleaning and painting of buildings, structures, etc., at Southend (East), Thorpe Bay and Shoeburyness—L. G. Howell, 104 Park Road, Ilford, Essex.

Cleaning and painting of sheds, buildings, etc., at Ilford Electric Train Depot—T. E. Cundy and Son, Ltd., 28 Belgrave Road, Leicester.

Construction of workshop block and stores at Marshgate Yard, Doncaster—Charles R. Price, Barnsley Road, Doncaster, Yorks.

Alterations to electric locomotive shed and construction of diesel fuelling facilities at Wath-upon-Dearne—Wade Bros. (Wath), Ltd., Northside Road, Wath-upon-Dearne, near Rotherham, Yorks.

Earthworks, drainage, fencing, bridge-works, in connection with the provision of a new marshalling yard at Tinsley, Sheffield—Lehane, Mackenzie and Shand, Ltd., Normanhurst, Matlock, Derbys.

Cleaning and painting of station buildings at Southend (Central) Station—L. G. Howell, 104 Park Road, Ilford, Essex.

North-Eastern Region: Following contracts placed:

Raising of platforms at Featherstone Station—J. Hinchliff and Son, Ltd., Barnsley.

Laying drains in up and down cresses and rebuilding cascade in railway cutting slope near Ardsley—Buckton (Contractors), Ltd., Ashton-under-Lyne.

ROADS, BRIDGES AND SITE WORKS

Beverley, Yorks. — Following for R.D.C.: (a) approximately 560 sq. yd. tarmacadam carriageway and 200 lin. yd. 6in. sewers at Holly Hill, Welton; (b) approximately 430 sq. yd. of concrete carriageway and 160 lin. yd. of 6in. sewers at Beech View, Walkington. G. Palfreyman, engineer and surveyor, 22 Lairgate—(a) Sangwin, Ltd., Danson Lane, Hull; (b) T. Wright and Son (Hull), Ltd., 57 Regent Street, Hull (subject to Ministry approval).

Bradford, Yorks. — Private street works in Carr Bottom Road and Eldon Place for City Council—Direct Labour, £18,011 and £2,697, respectively (recommended).

Bridgnorth, Salop. — Tarmacadam surfacing and fencing at Bridgnorth and South Shropshire Infirmary for the Birmingham Regional Hospital Board—Gater Roads, Ltd., 1 Balmoral Road, Penn, Wolverhampton, £1,335 (recommended).

Carlisle, Cumb. — Advance preparation of roads and sewers for 175 houses at Morton estate for City Council—Eden Construction Co., Ltd., English Damside, Carlisle, £32,917 (recommended, subject to Ministry approval).

Cheshunt, Herts. — Construction of roads and sewers in connection with development of land at Cheshunt for Edmonton, Tottenham and Wood Green B.C.s—Ruddock and Meighan, Ltd., Burford House, Harrow View, Wealdstone, £223,523 (recommended, subject to Ministry approval).

Chester. — Construction of a footbridge over the railway at Station View for City Council—J. W. Flather, Ltd., Grosvenor Street, Ellesmere Port, £12,842 (recommended).

Disley, Cheshire. — Roads and sewers at Stanley Terrace/Buxton Road for R.D.C.—Gortac, Ltd., Redgate Lane, West Gorton, Manchester, 12, £3,997. Work to commence Aug. 8.

Dungannon, Tyrone. — Laying of carriageways and footpaths on housing estates for R.D.C.—J. T. Glover, Ltd., Moneymore, £3,061.

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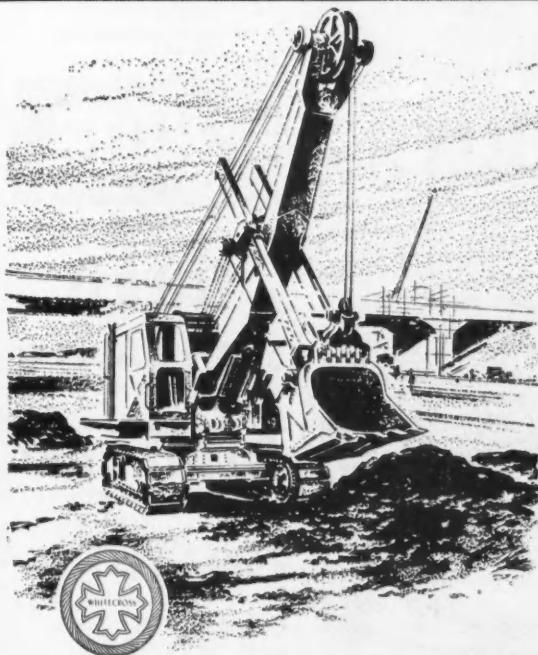
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Ealing, Middx.—Tenders received for the construction of roads and sewers at Marnham Crescent, for B.C.—Fulwood Construction Co., £6,182; E. C. MacDermot and Co., £5,772; T. F. Nash Contractors, Ltd., £5,496; Parr-Head and Clements, Knowling, Ltd., £5,620; Sullivan Construction Co., Ltd., £4,372; and A. N. Wootton and Co., £5,269.

Ealing, Middx.—Following tenders received for the repair of playground at Coston Junior School for B.C.—J. E. Bennett, £1,370; S. J. Jagger, £1,199; Parr-Head and Clements Knowling, £1,324.

Epsom and Ewell, Surrey.—Following for B.C.: Making-up of Poole Road (part) and Cottage Road, West Ewell—W. H. Gaze and Sons, Ltd., 19-23 High Street, Kingston-upon-Thames, £2,089 and £1,188, respectively.

Trench reinstatement and highway maintenance—W. H. Gaze and Sons Ltd.

Godalming, Surrey.—Making-up of Primrose Ridge cul-de-sac for B.C.—Davis Contractors, Ltd., 352 Kilburn High Road, London, N.W.6, £1,525 (recommended).

Gravesend, Kent.—Construction of a car park in hardcore and tarmacadam at Du Ponts, 12/14 Harmer Street, for R. Hopkins and Sons, Ltd.—Hodsons, Ltd., 17 Wrotham Road, Gravesend.

Hemel Hempstead, Herts.—Improvements of White Hart Cross Roads, Bovingdon, B.4505 and C.73, for C.C.—M. J. Clancy and Son, Ltd., 715 Harrow Road, Wembley, Middx., £14,751 (recommended).

Holland.—Construction of the Old Leake Diversion, eight miles north of Boston, for C.C., providing for the construction of approximately 1,000yd. of 24ft. wide carriage-way with flush concrete haunches. G. E. Betts, county surveyor—Fredd. Budge, Ltd., 122 Tower Road, Boston, Lincs., £28,370. Work commencing Aug. 8.

Huddersfield, Yorks.—Completion of road works on Jackroyd Lane estate, Fir Road/Broomfield Road estate, for B.C. A. L. Percy, borough engineer and surveyor—D. J. Bates and Co., Ltd., 2 Yew Tree Road, Birchcliffe, Huddersfield. Work commencing within one month.

Leek, Staffs.—Repair of roads at St. Edward's Hospital, Cheddleton, for Birmingham Regional Hospital Board—Staffordshire Public Works Co., Ltd., Victoria Works, Campbell Road, Stoke-on-Trent, £1,079 (recommended).

Liverpool.—Resurfacing a portion of the Netherfield Brow site between Everton Terrace and the new service road for City

Council—George Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, £1,916 (recommended, subject to Ministry approval).

Londonderry.—Following for C.C.: (1) Reconstruction of approximately one mile of route B.17, Coleraine to Bushmills, at Cloyfin crossroads; (2) reconstruction of approximately 4-mile of route B.48, Newbuildings to Donnemana at Newbuildings; (3) construction of traffic island and ancillary works at junction of A.54, Coleraine to Kilrea, and route T.7, Coleraine to Limavady, at The Screen Corner; (4) construction of traffic island and ancillary works at junction of D.R.123, Maydown to Coolkeeragh, and route T.7, Londonderry to Limavady, at Maydown School. H. K. Scott, county surveyor—(1) R. J. Maxwell and Son, Ltd., Coleraine, £43,059; (2) Mitchell, Nutt and Colgan, Claudy, £12,138; (3) Wm. G. Killough, Drumane, Kilrea, £522; (4) Bernard Mullan and Sons, Ringsend, Coleraine, £707.

Maidenhead, Berks.—Following for B.C.: Construction of roads and sewers (stage 2, section 2) at Cox Green estate—Kast Construction, Ltd., 167 Bower Way, Cippenham, Slough, £11,562 (recommended).

Resurfacing of Castle Hill—Charles Prior and Son, Maidenhead, £6,234 (subject to M.T. approval).

Margate, Kent.—Construction of roads and sewers at Millmead Road site, stage II, for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £43,602.

Mexborough, Yorks.—Reconstruction of footpaths for U.D.C.—E. Dickinson and Sons, Netherton, near Wakefield.

Middlesex.—Initial work on the Chiswick-Langley section of the London-South Wales Motorway for M.T. Sir Alexander Gibb and Partners, consulting engineers, Queen Anne's Lodge, London, S.W.1—Fitzpatrick and Son (Contractors), Ltd., 455 Old Ford Road, London, E.3, £459,104.

Ross and Cromarty.—Reconstruction of the Gairloch-Braemore Highway route A.832, from about three miles west of Dundonnell Hotel to Fain Bridge, including the reconstruction of the bridge, for C.C. James Arrol, county surveyor—Limmer and Trinidad Lake Asphalt Co., Ltd., 4 Woodside Place, Glasgow. Work is expected to start in Sept.

Surbiton, Surrey.—Resurfacing of carriageways on district and county roads and the main-

tenance of joints in carriageway on district roads for B.C.—Amalgamated Roadstone Corporation, Ltd., 15 Stanhope Gate, London, W.1, £7,867, and W. and J. Glossop, Ltd., 123 East Hill, London, S.W.18, £834, respectively (recommended).

Thedwastre, Suffolk.—Construction of road works at Thedwastre Close, Elmsworth, for R.D.C.—May Gurney and Co., Ltd., Trowce, Norwich, £2,841.

Workington, Cumb.—Construction of roads and sewers for 120 houses for B.C.—Thomas Armstrong, Ltd., South Street, Cockerham, mouth, £33,804 (recommended, negotiated tender).

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Bradford, Yorks.—Reconstruction of a section of the Victoria Street sewer for City Council—Direct Labour (recommended). Estimated cost £600.

Brigg, Lincs.—Supply and laying of 9½ miles of 18in. diameter asbestos-cement pressure pipe as effluent pumping main between Brigg sugar factory and the River Humber at South Ferriby for the British Sugar Corporation, Ltd.—Clugston Civil Engineering, Ltd., St. Vincent House, Normanby Road, Scunthorpe. Work just commenced.

Cardiff.—Construction of sewer at north-west of Llanishn Reservoir for City Council—Maberly Parker, Ltd., Ynys Yard, Taffs Well, Cardiff, £14,633 (recommended).

Dover, Kent.—Following for the Lydden, Coldeard and Shepherdswell sewerage scheme for R.D.C.: Construction of the sewer and two pumping stations—Bowzell, Ltd., Wellington House, Walmer, Deal, £113,864; provision of pumping machinery for the pumping stations—Hughes and Lancaster, Ltd., 49 Poland Street, London, W.1, £5,739 (subject to Ministry approval).

Ealing, Middx.—Tenders received for the provision of a mobile sewerage pump for B.C.—Stanley Engineering Co., £828; Henry Sykes, Ltd., £915; and Gwynnes Pumps, Ltd., £995.

Enfield, Middx.—Construction of a twin sludge pumping main, contract E.M.S.12, for C.C.—William Moss and Sons, Ltd., North Circular Road, London, N.W.2, £106,314 (recommended).

Exeter, Devon.—Piping of stream adjoining Northbrook Approved School, Whipton, for City Council—Harrow and Heales, Ltd., Vauxhall Ferry Road, Coronation Road, Bristol, 3 (recommended).



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Highworth, Wilts.—Resewatering of Grove Hill for R.D.C., comprising the construction of approximately 120 lin. yd. of 21in. diameter and 550 lin. yd. of 15in. diameter concrete tube sewers, laid mainly in carriageway, together with 10 manholes, and incidental works. F. Davenport, engineer and surveyor—Clark Bros., Stratton Road, Swindon, £6,043. Work commencing Sept.

Knutsford, Cheshire.—Knutsford sewerage, contract 1, for U.D.C., comprising the laying of some 3,300yd. of 27in. to 12in. diameter concrete cast-iron and steel pipe sewers and 270yd. of 6in. cast-iron rising main, together with the construction of manholes and storm water overflows. Arnold Brooksbank and Son, consulting engineers, 48 Sunbridge Road, Bradford, 1—D. Machin, 4 Shepherd Street, Biddulph, Stoke-on-Trent, £41,928 (subject to Ministry approval).

Leatherhead, Surrey.—Surface water drainage work at Oaklawn Road for U.D.C.—T. Vickers, Ltd., 288 Kingston Road, Leatherhead, £675. Work commencing Aug. **Liverpool.**—Supply and erection of grit dredging and washing machinery for installation in the inlet channels at the south sewage disposal works for City Council—Hartleys, Ltd., Stoke-on-Trent, £4,784 (recommended).

Middlesex.—Supply and erection of grit pumps at Deephams Works, contract E.M.D.8, subcontract 35, for C.C.—Gwynnes Pumps, Ltd., Chancellor's Road, London, W.6, £3,408 (recommended).

Newbury, Berks.—Supply of pumping equipment at the Sewage Disposal Works and London Road Pumping Station for B.C.—Tangyes, Ltd., 60 Grosvenor Street, London, W.1, £2,470.

Northampton.—Relief storm water sewer, Cliftonville Road, for B.C., including the laying of approximately 360 lin. yd. of 30in./33in. diameter precast concrete pipes and ancillary works—F. M. Sparrow (Contractors), Ltd., Highfield Road, Bedford, £8,093. Work commencing September.

Paddington.—Reinverting and other repair works to sewer in Seymour Street, between Edgware Road and Connaught Square for B.C.—Direct Labour, £3,400 (recommended).

Romford, Essex.—(Correction): Land drainage works at Bedfords Park for B.C.—S. C.

Stacey and Sons (Contracts), Lawn Lane, Springfield, Chelmsford, £891 (and not as stated in issue of July 13).

Shifnal, Salop.—Following for R.D.C. Willcox, Raikes and Marshall, consulting engineers, 33 Great Charles Street, Birmingham, 3: Construction of the Beckbury Sewerage and Sewage Disposal Works—M. A. Boswell, Ltd., 124 Compton Road, Wolverhampton, £24,099 (accepted); Divis (Contractors), Ltd., £24,589; R. J. Russell, Ltd., £24,872; George Law, Ltd., £30,551; D. T. Bullock and Co. Ltd., £31,277; Currall Lewis and Martin, Ltd., £33,797. Work commenced.

Second stage of the extensions to the Albrighton Sewerage and Sewage Disposal System—R. J. Russell, Ltd., 15 Queen Square, Wolverhampton, £45,242 (accepted); George Law, Ltd., £46,523; M. A. Boswell, Ltd., £46,944. Work commencing Aug./Sept.

Wandsworth.—Reconstruction of sewers in six roads for B.C.—Lavelle's Plant Hire (London), Ltd., 22 Meppoc Road, London, S.W.4, £79,832 (recommended); J. D. Billings and Co., Ltd., £96,373; William F. Rees, Ltd., £109,245; Ruddock and Meigham, Ltd., £145,541.

Construction of 40 sewer manholes in the Putney and Streatham areas for B.C.—Coffey and Son, Ltd., 147 Rushey Green, London, S.E.6, £9,799 (recommended); Lavelle's Plant Hire (London), Ltd., £10,385; J. E. Billings, Ltd., £10,771; William F. Rees, Ltd., £15,248; Ruddock and Meigham, Ltd., £17,750.

West Kesteven, Lincs.—Laying of about 5,500yd. of 6in. and 9in. diameter pipe sewers, 1,800yd. of 5in. spun-iron pipe rising mains, and the construction of two pumping stations and a sewage disposal works comprising settlement tank, bacterial filter 55ft. diameter, humus tank, sludge drying beds, and pumping station, near Long Bennington, about eight miles northwest of Grantham, for R.D.C. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham—Bagguley and Barker, Ltd., 133 North Sherwood Street, Nottingham, £85,788. Work commenced.

Witney, Oxon.—Main drainage of Hanborough, Freeland and Bladon, W24/5, contract 1, for R.D.C., comprising the construction of approximately 10 miles of small diameter sewers and rising mains,

two pumping stations, a sewage disposal works, and other ancillary works. Howard Humphreys and Sons, consulting engineers, West Street, Epsom, Surrey—Tilbury Construction Co., Ltd., Ruscombe Works, Twyford, Reading, £191,880 (subject to Ministry approval).

Worthing, Sussex.—Cleansing of two lengths of main sewer for B.C.—Descaling Contractors, Ltd., £985 (recommended).

STREET LIGHTING

Birmingham.—Following for the Regional Hospital Board: Additions and improvements to roadway lighting and electrical installation in chapel and T.B. Sanatorium at Hollymoor Hospital, and cable installations for provision of road lighting at Little Bromwich General Hospital—Lee Beesley and Co. (Birmingham), Ltd., Bath Row, Birmingham, 15, £6,529 and £5,132, respectively; road lighting installation for approach roads in connection with long stay annexe and admission and out-patients' department at Rubery Hill and Hollymoor Hospitals—Midlands Electricity Board, £2,171 (recommended).

Cardiff.—Supply of steel columns for street lighting purposes for City Council—Revo Electric Co., Ltd., Tipton, Staffs., £2,147 (recommended).

Carlisle, Cumb.—Following for City Council: Provision of street lighting at Morton estate (stage IV)—Cohen Bros. (Electrical), Ltd., 11 King Edward Buildings, Manchester, 8, £2,020: (a) installation of class B lighting on housing estate footpaths and a further stage of the gas lighting conversion scheme; and (b) installation of class A lighting in Dalton Road, Dunmail Drive and Shady Grove Road—Ben. L. Oliver, Ltd., Butsfield, Birtley, Dur., (a) £1,037 and (b) £2,504 (recommended).

Ealing, Middx.—Tenders received for the provision of street lighting at North Circular Road for B.C.: Columns—Bagshawe Contractors, Ltd., £2,358; Walker Installations, Ltd., £2,364; Harland and Wolff, Ltd., £2,424; Harland and Wolff, Ltd. (Alternative), £2,446; General Electric Co., Ltd., £2,452; Abacus Engineering, Ltd., £2,493; and lanterns—Engineering and Lighting Equipment Co., Ltd., £900; Atlas Lighting, Ltd., £939; General Electric Co., Ltd., £980; General Electric Co., Ltd. (Alternative),

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Leicester. Leicester 29981

LIVERPOOL AREA
Merseyside House, 9 South
John Street, Liverpool, 2.
Royal 9701

SHEFFIELD AREA
Fargate House, Fargate,
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£985; Bagshaws Contractors, Ltd., £1,005; A.E.I. Lamp and Lighting Co., Ltd., £1,029. Enniskillen, Fermanagh.—Conversion of existing pole, column and wall-mounted mercury vapour street lights to fluorescent lanterns, including supplying and erecting new columns, adaptors and brackets where necessary for B.C.—The A.E.I. Lamp and Lighting Co., Ltd., 18 Adelaide Street, Belfast, £3,402 (accepted); General Electric Co., £5,683.

Margate, Kent.—Supply of (a) 94 SL/3801 amberline side entry sodium enclosed lanterns complete with 200-W control gear and 200-W linear lamps, and (b) 748 model S251 form 13 synchronous pattern solar dial time switches for B.C.—(a) Associated Electrical Industries, Ltd., 33 Grosvenor Place, London, S.W.1, £16 5s. each, and (b) Sangamo Weston, Ltd., 22 St. Georges Court, New Oxford Street, London, W.C.1, £3 17s. 6d. each (recommended).

GOVERNMENT CONTRACTS

Admiralty.—Particulars of contracts over £4,000 in value placed by Navy Works Department:

Yorkshire: painting—Wilson Dodds (Painting Contractors), Ltd., Bradford.

Devonshire: electrical shop and lecture cinema—Dudley Coles, Ltd., Plymouth; storehouse—James Miller and Partners, Ltd., Hayes, Middx.

Air Ministry.—Contracts to the value of £4,000 or over for the week ended July 21:

Building work: Cottesmore, Rutland—E. Clarke and Sons (Melton Mowbray), Ltd., Scalford Road, Melton Mowbray, Leics.; (prefabricated buildings) supply and erection—various A.T.C. units in U.K.—Spooner (Hull), Ltd., Hull, Yorks.; Steamer Point, Aden—W. J. Simms, Sons and Cooke, Ltd., Sherwood, Nottingham.

Runway work: Ballykelly, Northern Ireland—Constable Hart and Co., Ltd., Richmond, Surrey.

Flooring work: (strengthening hangar floor, etc.)—Leuchars, Fife.—Scottish Tarmacadam, Ltd., Bilbao Street, Glasgow, C.5.

Artificers' work: Ouston (Newcastle), etc.—John Roxby Surtees, Ltd., Blackhill, Co., Durham; Medmenham, Bucks., and Booker, Bucks., etc.—Haymills (Contractors), Ltd., Western Avenue, London, W.5; Chelveston (Northants) and Molesworth (Huntingdon), Horsham St. Faith (Nortolk), etc.—Coltishall (Norfolk), etc.—Tooley and Youngs, Ltd., Stalham, Norwich, Norfolk.

Painting work: West Malling, Kent—Fields (Richmond), Ltd., Richmond.

Surrey; Coltishall (Norfolk), etc.—Donald Humberstone and Co., Ltd., North Somercotes, Louth, Lincs.

Supply and installation of hot water heating plant: Hereford—Norris Warming Co., Ltd., Clifton, Bristol, 8.

Installation work (steam boilers, etc.): Northolt, Middx.—W. G. Cannon and Sons, Ltd., Buckingham Palace Road, London, S.W.1.

Electrical installations (external/internal): Gibraltar—Thorpe and Thorpe, Ltd., New Broad Street, London, E.C.2.

Electrical services (modification to airfield lighting and electrical mains distribution): Syerston, Newark, Notts., Binbrook, Lincoln, and Manby, Louth, Lincoln—W. T. Parker, Ltd., Burton-on-Trent, Staffs.

Electrical mains distribution and airfield lighting services: Headquarters, Air Ministry, Directorate-General of Works, and Headquarters, Works Area 5, Shippon, Abingdon, Berks.—Electrical Installations, Ltd., Vincent Square, London, S.W.1; Headquarters, Works Area 6, Rose Duryard, Argyl Road, Exeter, Devon, Headquarters, Works Area 8, block D, Brooklands Avenue, Cambridge, Headquarters, Works Area 9, Carrick House, Lypiatt Road, Cheltenham, Glos., and Headquarters, Works Area 10, Royal Air Force, Ickenham, Ruislip, Middx.—T. Clarke and Co., Ltd., Drury Lane, London, W.C.2.

Ministry of Works—Contracts placed for week ended July 15:

Devon: Head Post Office, Fleet Street, Torquay—alterations to accounts section—Thos. Vanstone and Sons, Ltd., 240 Union Street, Torquay.

Hampshire: Ordnance Survey Office, Crabwood, Southampton—enlargement of helio section—G. S. Hallum and Sons, Ltd., 9 Carlton Crescent, Southampton.

Hertfordshire: Building Research Station, Garston—voltage plant—Lancashire Dynamo and Electronic Products, Ltd., Rugeley, Staffs.; Chorley Wood—erection of telephone exchange—Welwyn Builders, Ltd., Mundells, Welwyn Garden City.

London: Natural History Museum, S.W.7—internal cleaning and decoration work—South London Decorators, Ltd., 9-11 Streatham High Road, S.W.16; New Centre Block, Science Museum, S.W.7—cladding to escalators—Y. J. Lovell (London), Ltd., Thorne House, Endsleigh Gardens, W.C.1; Northumberland House, S.W.—electrical installations—Read and Partners, Ltd., 28-32 Hatfields, Stamford Street, S.E.1; Government Offices, Great George Street, S.W.1—electrical installations—L. J. Palmer of London, Ltd., Baring Works, Grove Park, S.E.12; St. Stephen's Club Building, Bridge Street, S.W.1—alterations and adaptations—C. R. Price, Building and

Engineering Contractor, 252 Bishopgate, E.C.2; 3-8 Whitehall Place, S.W.1—acoustic treatment of conference rooms—Bracketting, Centering and Lathing, Ltd., Central Avenue, West Molesley, Surrey.

Middlesex—Ship Hydrodynamics Laboratory, Feltham—oil-fired boiler—Vauxhall Boiler Co., Ltd., Bondway, London, S.W.8, and surface treatment to walkways, corridors—Fields (Richmond), Ltd., 12 Kew Road, Richmond, Surrey; Ruislip—erection of Crown office building—Token Construction Co., Ltd., 68 Mount Street, London, W.1, estimated cost £82,000.

Nottinghamshire: Radcliffe-on-Trent—erection of telephone exchange—R. Hustwayte, Haydn Road, Sherwood.

Wiltshire: Copenacre, Hawthorn—provision of air conditioning—W. G. Cannon and Sons, Ltd., 38a St. George's Drive, Buckingham Palace Road, London, S.W.1.

Worcestershire: Albert Road, Malvern—erection of automatic telephone exchange—Thos. Broad, Ltd., Graham Works, Great Malvern.

Post Office.—Contracts for duct laying, etc. works to the value of £4,000 and over placed during the two weeks ended July 22:

Alec Astbury, Ltd., Alyn Drive, Penyffordd, Chester; The C.D.L. Construction Co., Ltd., Church Road, Egham, Surrey; The Dowsett Engineering Construction, Ltd., Dowsett House, Durham Road, Gateshead-on-Tyne, 9, Durham; W. A. Gale, Ltd., 48 Ruthven Road, Litherland, Liverpool, 21; G. H. Graham (Contractors), Ltd., District Bank Chambers, Market Street, Huddersfield, Yorks.; P. Lowry and Sons, Ltd., Sussex Road, Southall, Middx.; E. W. Moulson and Sons, Ltd., Forresters Yard, High Street, Wibsey, Bradford, 6, Yorks.; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; Stanley Raymond and Co., Ltd., Sussex Road, Southall, Middx.; Wilson and Wilkinson, Ltd., 102 Bolton Road, Pendleton, Salford, 6, Lancs.

War Department.—Contracts placed for the week ended July 15:

Anglesey (Ty Croes): cable work—Penmar and Co., Ltd., London, W.9.

Ayrshire (Irvine): roofing—The Stewart Roofing Co., Ltd., Glasgow.

Gloucestershire (Tetbury): Clair doors—Clair Doors, Ltd., Birmingham.

Hampshire (Gosport): miscellaneous—Healy and Evans, Ltd., Fareham.

Kent (Canterbury): building—C. L. Nye, Ltd., Potters Bar, Middx.

Surrey (Camberley): ground clearance—Bagshot Sawmills, Ltd., Camberley; (Guildford): building—E. J. Logan (Putney), Ltd., London, S.W.15.



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DERBYSHIRE TRUNK ROAD IMPROVEMENT

16,000 cu. yd. of Rock Removed

A ROAD improvement scheme with some unusual problems is currently under way on the London/Carlisle trunk road, A.6, between Matlock and Cromford in Derbyshire. The contractors, John Brown and Sons (Wolverhampton), Ltd., were required to straighten and widen about a quarter of a mile of the existing road, the width being increased from about 30ft. to 60ft.

The chief difficulty has lain in the fact that this particular section of the A.6 is bounded partly by a steep fall to the river Derwent and partly by limestone tors rising to a height of 70ft.

Before work began both these tors were fairly thickly wooded, and overlain with vegetation, and the contractors had to excavate rock at road level immediately adjacent to the carriageway and up to a height of 35ft.

The first operation was to fell the trees on the hillside and remove scrub and undergrowth from the sections which had to be cut away. The contours of the rock face were not uniform and in places the rock rose sheer from the road. In other places there were pinnacles of rock which

maximum drilling depth was 10ft. The drills were equipped with series 12 Sandvik Coromant steels. Millisecond delay detonators were used, and groups of 30-40 holes were fired at a time during the primary blasting.

One condition of the contract was that single line traffic should be permitted to flow for the greatest possible time, and the road was closed only during blasting or until the rock face was made safe.

Dead Time Problem

The contractors soon encountered a major difficulty. To give the 955 Caterpillar Traxcavator room to work while traffic was passing along the single track the hillside had to be broken into. Also, it was no easy job to marshall the lorries which were taking the rock away, as these vehicles often had to wait until the traffic was flowing their way. These conditions resulted in a considerable amount of dead time, particularly at the start of the contract when working space was being created.

At the time of writing the contract is still in progress but by the time it is completed 19,600 cu. yd. of material—of which



Single-line traffic while work proceeds

had to be removed, and the limestone was badly eroded with many vertical fissures and cleavage planes. These fissures were mostly filled with clay.

Control of Explosives

It had been agreed by the County Surveyor that explosives would be required but a problem needing careful consideration was the close proximity of some of the buildings of Cromford village; rigid control of the amount of explosive used was therefore very necessary.

To ascertain the effect of shock waves upon the surrounding properties vibrograph tests were taken by Imperial Chemical Industries, Ltd. These tests revealed the limit of the amount of explosive that could be used on any one shot, and this figure turned out to be 7lb. of Polar Ammon gelignite. The restriction on the amount of explosive in turn controlled the drilling depth, although this would, to a very large extent, in any case have been governed by the incidence of fissures and bedding planes which made the drilling an extremely difficult operation. No fixed drilling patterns could be employed as the condition of the rock varied along the whole length of the contract.

Atlas Copco BBD41WK rock drills mounted on air legs were used, and the

about 16,000 cu. yd. is rock—will have been removed. The rock has been affected to a certain degree by mineralisation, mainly with associate minerals such as calcite, and these calcitic veins increased the drilling problem.

Ancillary Work

Another section of the contract calls for the improvement of a secondary road, basically to give a better approach to the A.6. The improvement of this road has necessitated a certain amount of filling, the fill having to come from the main excavation this secondary road was also the main traffic diversion, and therefore work on it could not be started until the main excavation was advanced far enough to avoid the creation of another bottleneck on the secondary road.

Ancillary jobs which have to be completed by John Brown and Sons (Wolverhampton), Ltd., are filling in a river embankment at the Matlock end of the contract to allow for a change in the direction of the road at some future date; a certain amount of river work involving removal of rock from the river bed; the construction of a bus bay and the moving of services into the new footway; and the construction of grass verges and retaining walls.

BUILDING CAPACITY VERY HEAVILY LOADED

Shortage of Skilled Men

WITH heavy investment demand from public and private sectors of the economy the construction industries have been booming, states the Treasury's *Bulletin for Industry* for July. Capacity is very heavily loaded.

Output by the construction industries was 6 per cent. higher in 1960 than in 1959 and the rise has continued this year. Output in the first quarter, when there is normally a fall, was the same as the high level in the fourth quarter of 1960. Last year and this, construction has been the main growth element in the economy.

In the first quarter the value of new housing work done by contractors was £15m. (5 per cent. allowing for price changes) more than a year earlier; all the increase was for private developers. There was a small increase in the total number of houses started in the first five months compared with a year earlier.

Housing accounts for about a third of new contracting work. The other two-thirds was 13 per cent. higher in the first quarter than a year earlier allowing for price changes; for public authorities the increase was 6 per cent., for private industrial developers 26 per cent., and for other private developers 9 per cent.

Manpower

The number of operatives employed by contractors increased steadily last year, and the gain has continued this year. In May the total number of operatives was 30,000 greater than in May, 1960, a rise of 3 per cent. Despite this addition to the labour force the demand for skilled men was well in excess of supply. In May there were six vacancies for every unemployed carpenter and 10 for every unemployed bricklayer. In Scotland and in the North East the labour position continues to be easier than in the rest of the country, but in May there were more vacancies for skilled men than there were craftsmen unemployed. There has, however, been a considerable reduction and in Scotland there are now four vacancies for every unemployed carpenter and one for every unemployed bricklayer.

Materials

Brick production in January-May was 2 per cent. up on a year earlier allowing for seasonal variations. Stocks are now showing the usual seasonal fall but at the end of May were 50 per cent. higher than a year earlier. New capacity is coming into use this year, and although delivery periods for some types of bricks are long, providing orders are placed in good time, difficulties can be avoided. Demand for cement has been rising rapidly and shortages have been reported from a number of areas. Production has risen fast, with deliveries in January/May up a tenth on a year earlier. In addition the industry has arranged for larger imports. Supplies of other materials appear adequate.

New Orders

Contractors have been obtaining new orders at a rate above last year and well in excess of new work done. The total for all new work in the first quarter at £521m. was about 5 per cent. up on a year ago allowing for price changes. The main increases on the first quarter of last year came from the public sector—£12m. for housing and £26m. for other new work. Miscellaneous work for private developers rose £11m. but industrial work was virtually unchanged.

A further increase in output can be expected this year as a result of the increased labour force and probably from some extra output per man, concludes the *Bulletin*. But a build-up of orders leading to too much work in hand may reduce efficiency.

Talking of Safety

by
"DRAGEE"

OF course, mishaps with safety devices are not confined to goods hoists and their equipment. For example, there was the case of the man who fell off a joist while he was wearing a safety belt, when the sudden jar, as he came to rest, caused him to swallow his false teeth. More recently, a scaffolder suffered a severely lacerated scalp when he came into sharp contact with an overhead metal sign which bore the warning "Watch your Head".

Such examples are by no means rare. Many are trivial; some end in tragedy, violently, and without any warning.

Like the time when young Dick Woods was working in his father's business. It was then a small firm of erection contractors, operating mainly in the steel country of Lincolnshire. Woods senior had insisted upon his son learning the practical details of the work as soon as his academic training was finished, sending him out with the gangs on a variety of jobs.

He worked conscientiously through a particularly bitter winter, and now with the approaching spring he was looking forward to the commencement of an interesting erection contract near the coast. A small party of men were engaged upon the unloading of new steelwork, and during his spare moments Dick was helping the foreman with the setting-out. He had just taken some levels and was putting the instrument away in its case when the foreman—an old hand named Cartwright—came over to him and said:

"We're having a Scotch derrick sent over from Scunthorpe tomorrow, Dick. For the time being we'll have it in the stockyard for the unloading. It's got an electric drive, and now that we have a supply of power on the site it'll be a lot faster than the old hand derrick. I've borrowed it from some people I know—got it cheap, too. Thought you might like to try your hand with it."

"Do you mean you want me to drive it?" "No, Dick. Your dad won't allow that. Not yet, anyway. I want you to work with the gang—do a bit of slinging, and that.

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

I'll put Ted Burroughs with you. He's a good chap, and he'll look after you all right."

Dick nodded. "Suits me. When do we start?"

"Some big loads are coming in Friday. We shall be ready for them first thing."

The crane arrived the following day. It was a pretty ancient-looking piece of equipment, but it looked solid and serviceable enough. It was sited on a small patch of made-up ground between the roadway and the stockyard. The electricity supply came from the distribution board which was located near to the main part of the site.

Dick studied the new arrival with interest. He said to the foreman:

"What about the insurance, and so on? Who looks after that?"

"Don't you worry about that," said Cartwright. "The owners will have looked after all the details. All we have to do is to see that nothing goes wrong."

The crane operator, a dour individual named Basset, had been brought in temporarily from another site, and he and another man spent the afternoon fixing the cantilevers and carrying out some rough tests. The idea was merely to make sure that the crane didn't actually overturn while it was carrying its normal load. (The wiring-up had been undertaken by one of the charge-hands, who was considered to be something of an amateur radio enthusiast, and therefore adequately qualified for the job.)

On Friday morning the first load came in through the main entrance, and turned into the stockyard. Dick, with Ted Burroughs, Basset and another man were sent to deal with it. Rain was threatening and they set to work quickly to get the lorry and trailer cleared. Presently, they came to one of the larger pieces, a heavy section with several awkward projections. The chains were fixed and Burroughs signalled to Basset to lengthen his jib radius. The controller lever was at the "down" position, and as he jibbed-out, he had to lift the pawl clear of the ratchet. At that moment, Dick leaned forward to adjust one of the sling hooks, and that was the very last thing he did, for the jib suddenly fell, crushing him beneath its weight.

Afterwards, it was found that Basset had accidentally allowed the pawl to touch the rotating ratchet, and this had caused the

jib clutch to become disengaged. It wasn't until much later that someone discovered that the machine had originally been hand-operated, and that the interlock gear was not sufficiently strong to resist the force of the motor.

Apart from anything else, this goes to show the importance of an exhaustive enquiry after a serious accident—if only for the sake of preventing a recurrence.

SHROPSHIRE FIXED PRICE TENDER POLICY

After reviewing Shropshire C.C.'s policy of generally inviting fixed-price tenders, the General Purposes Committee have stated that they see no reason to depart from this policy, which has been in effect since 1959. The Committee recommend, however, that alternative tenders should be invited (one on a fixed-price basis and one with a fluctuations clause operating) for projects to cost more than £120,000 or which will take more than two years to complete.

(Concluded from page 601)

The new pumping station is about 180ft. by 40ft. and is 60ft. from foundation to roof. The substructure is on a reinforced concrete raft which is protected from the gypsum in the Triassic marl by a high alumina cement concrete, surfaced with bitumen.

The superstructure frame is in precast reinforced concrete clad on the outside by brick walls and exposed aggregate panels. The window frames are of aluminium. The Southport-Banks road had to be diverted in order to construct the pumping station, and as a result a reinforced concrete sea wall was built to accommodate this road in front of the pumping station.

Pumping Station Equipment

The station houses six 42in. axial flow pumps of a total capacity of 630 cu. ft. per second, supplied by Gwynnes Pumps, Ltd. These are driven by Ruston five-cylinder VEB diesel engines, each developing 288 b.h.p. when running at 480 r.p.m., the engines driving the pumps through David Brown bevel gearboxes having a ratio of 1.37 to 1. The design head of these pumps is 12.5ft., and the discharge is through siphons fitted with Gwynnes' siphon breakers.

The six Ruston engines are arranged for thermostatic temperature control and compressed air starting, the air receivers being interconnected with those for the Allen engines. They are charged by a small Ruston BCD motor-driven compressor with a 1YB diesel engine and compressor for standby duties. The pumps are housed on both "wings" of the Pumping Station in batteries of three. In the centre of the Pumping Station, at a lower level, are housed seven 24in. double-suction Allen centrifugal pumps driven directly by Allen four-cylinder diesel engines, developing 129 b.h.p. at 339/465 r.p.m. The design head is about 16ft., and the discharge pipes are closed by 24in. hand-operated sluice valves.

A thermostatically controlled oil-fired boiler gives the Pumping Station central heating. Electricity for lighting and driving small auxiliary pumps, etc., is supplied from the grid, but there is also a small standby generator driven by a Ruston 4YCK diesel engine developing 30-kW at 1,500 r.p.m. to ensure a supply in the event of a grid failure.

Seven 24in. discharge pipes from the Allen sets and discharge culverts from the Gwynnes discharge chambers pass under the road and through the sea wall across a pitched apron into the outlet channel.

The scheme is now substantially complete and in operation, but some inland works remain to be carried out, including one large underdrain. It will be completely finished by the autumn of 1961, but almost all the benefit has already been gained, the area having been spared the flooding which would certainly otherwise have occurred during last autumn and winter.



"Now be good boys and tell us where you hid the tower crane!"

PRESTRESSED BRIDGE INCORPORATES NEW STANDARD SECTION BEAMS

THE first bridge to be built with prestressed concrete beams of the Standard Section designed by the Prestressed Concrete Development Group, has been constructed by the Central Electricity Generating Board to provide access over a main drainage channel to their new major substation being erected at Whitson, near Newport, Mon. The work was engineered by the Board's transmission project group at Guildford under the direction of Mr. H. R. Schofield, the chief project engineer.

The bridge was designed to have a clear span of 46ft. to allow for future widening of the drainage channel. The design load was based on the heaviest anticipated weight to cross the bridge, a 165-ton transformer.

The original plan was to construct a prestressed concrete bridge in situ. However, circumstances made it impossible to complete such a structure by the delivery date for the first transformer.

To complete the bridge on time it was therefore decided to use precast, pre-

stressed beams, and to cast the deck slab in situ. The 48ft. beams with standard section were capable of carrying the 165-ton transformer, and no alteration to the design was necessary.

Since sub-strata conditions were poor, it was necessary to drive 40ft. pile foundations for the reinforced concrete abutments. The bridge bearings consisted of bull headed rails, on each abutment, with a flat steel plate let into the underside of the beams resting on these.

It was impossible to launch the beams into position from the side, since this would have obstructed an existing public road. A temporary bridge was therefore built, onto which the low-loader delivering the beams could be driven. Two cranes, one on each abutment, together lifted the beams from the low-loader and placed them in position. The unloading and placing of each beam took approximately five minutes.

The contractors were A. Jackaman and Son, Ltd., and the precast beams were made by Anglian Building Products, Ltd.



Unloading a standard beam on the site

HIGH COST OF VARIATIONS CLAIMS

THE importance of work being pre-planned to the last detail by client and architect was emphasised by Sir Aynsley Bridgland, C.B.E., chairman of Humphreys, Ltd., when he addressed shareholders at the company's recent annual general meeting.

Referring to sharp losses experienced during the past year by contracting firms which had been ascribed generally to the evil of price cutting and also to the atrocious weather conditions, he said that in these conditions it was more than ever essential that work should be preplanned. If this was not done, and it rarely was, an abundance of variations occurred.

"These variations," he stated, "give rise to claims to recover the extra costs incurred in carrying out the work involved. Such claims result in long and protracted negotiations between architect, quantity surveyors and contractors, sometimes taking up to two years or even longer before they are settled. It has always appeared to us that the cost in loss of interest on the money in dispute and the work of the

staff in preparing the claims reaches a very high figure and unless the methods of reaching a mutually agreeable solution are speeded up, this burden will continue to arise out of this present system of tendering. There is no doubt that the question of claims and the method of their settlement are matters for which contractors as a body will, in the near future, have to enforce some kind of protection in their tenders.

"On large contracts it is becoming increasingly evident that with the growth of technical services incorporated in buildings it is of prime importance to building owners to know that their contractors have at their disposal the means to deal with all the aspects of the proposed building and the technical skill to overcome the problems. Time in building is saved through these arrangements and this is a very important factor, for not only do undue delays cost interest on the money invested, but they also result in additional loss of revenue from rents and services. In large contracts these delays can run into many thousands of pounds."

FIVE THOUSAND TAKING "DIP. TECH." COURSES

"THIS year has been notable not only for the large increase in enrolments for the Diploma in Technology but the gratifying number of registrations for Membership of the College of Technologists (M.C.T.) in the first full year since its inauguration," says Sir Harold Roxbee Cox, chairman of the National Council for Technological Awards in a foreword to the Council's annual report now published.

The report, which covers the period April, 1960, to March, 1961, shows that (1) Nearly 5,000 students were taking courses in the Diploma in Technology compared with 3,800 a year before; (2) nearly 1,770 students, including 63 women, had enrolled in first-year courses compared with 1,500 in the previous year, of whom 40 were women; (3) over 470 Diplomas had been awarded; and (4) 34 applications for the M.C.T. had been received of which 27 had been accepted and five were under consideration. The report says that the total number of students taking Diploma courses and the number of Diplomas awarded is "quite a remarkable achievement over the five years the Council has been in existence." The Council pay tribute to the enthusiasm with which colleges and industry had embraced the concept of the Diploma in Technology.

Industry's Part

About 83 per cent. of the engineering students and 56 per cent. of the students of technologies other than engineering were industry based. The Council acknowledge the part played by industry in providing industrial training for these students—totalling about 3,800—and for some 1,200 college based students.

The Council are impressed by the growth in the number of students following sandwich courses in technologies other than engineering. These had risen from 220 in 1957 to nearly 1,250 in March, 1961. The Report points out that the character of courses in technologies other than engineering is of particular interest. For example, in mathematics the approach to the subject in courses leading to the Diploma "has a distinctive practical flavour in contrast to the more abstract treatment of the subject often found in other courses of a similar standard."

Widespread Recognition

The recognition of the Diploma in various quarters is illustrated by the following: The Diploma is accepted as a qualification for entry to the scientific civil service *pari passu* with a university degree and the majority of professional institutions exempt holders of the Diploma from taking the institute's own examination for graduate membership.

An interesting development has arisen from the recommendation by the Committee of Vice-Chancellors and Principals for universities to treat the holders of the Diploma on the same footing as university graduates. Already a number of holders of the Diploma, financed by grants from D.S.I.R., are reading for higher degrees at universities, whilst in the reverse direction a number of university graduates have been registered as candidates for the M.C.T.

SUSSEX UNIVERSITY APPEAL REACHES £400,000

Architect's plans for two halls of residence will be commissioned by Sussex University, now that the response of their appeal for £500,000 has reached £400,000.

The halls will be built at the Stannier Park site, near Brighton, and each will accommodate 100 students. It is hoped that they will be ready for occupation by 1964, and as additional funds become available, further halls will be erected.

LAND ACQUISITION

Call by Local Authorities for More Government Financial Help

THE view that local authorities should clearly recognise that they will in future have to pay for land at open market values is expressed by the town planning committee of the Association of Municipal Corporations in a report just presented to Mr. Henry Brooke, Minister of Housing and Local Government.

The committee point out that the available evidence leaves no doubt that there has been a great increase in the price of land particularly in the London area and the south-east of England and the Midlands, but the increase is not by any means of a standard character. The shortage of land for building in some areas has resulted in quite exceptional increases. The rise in the cost of land has been caused by a market condition influenced by planning policy rather than by the T. and C.P. Act, 1959, which Act is merely the reason why this increase has been felt by local authorities somewhat abruptly.

Referring to a debate in the Commons on this subject on July 18, 1960, the committee say it is clear, firstly, that the present Government will not depart from the principle established in the Act of 1949 providing for the price of land in the open market as the appropriate price both for private sales and compulsory acquisition.

The Government support this by pointing out that this Act was on this point not controversial; in fact the Association came to the conclusion that it could not oppose in principle the idea of market value for compulsory purchase. A study of the debate leaves very little doubt that there is no possibility of altering this principle.

The next established principle is that the Government are determined to preserve the green belts round the great cities, and are prepared to face the fact that certain cities will be short of building land and indeed in some cases will ultimately reach a position where the only building land is that obtained by redevelopment of older areas. The Government accept the fact that in these areas, and in any areas where there is high demand for building land, prices of such land as will be made available under planning control will rise considerably.

The Government have made it clear, however, in the debate and in the circular which has been issued (37/1960) that they wish to ensure that where it is proper to do so more land is made available for development, and regional conference with planning officers have been arranged to examine what should be done.

Clearly, the committee argues, all boroughs should consider whether the facts and needs of their district justify action to reserve more land for development.

After quoting extracts from the Minister's speech in the Commons last year the committee reports:

"In these circumstances local authorities should clearly recognise that they will in the future have to pay for land at prices based on the market value of a commodity which in many cases will be in short supply. However attractive it may be to argue that local authorities should be able to buy land at the sort of prices operating over the last few years, it would be unrealistic to hope that Parliament will provide for anything of the sort. Nor do we think it wise to disregard the fact that the Act of 1949 whilst allowing for 'market price' for most land acquisitions provides for special protection for local authorities purchasing land in redevelopment areas. Local authorities with substantial redevelopment problems will find the provisions of ss. 4 (4) and (5) and 9 (2) of the 1959 Act a safeguard, even if the terms of those provisions are somewhat difficult to interpret and apply.

"It will be noted that the Government

in their recent circular have urged local authorities to make use of all possible vacant pieces of land and to carry out schemes of urban renewal, and to build at higher density where possible.

"In the light of what is written above this matter appears to be substantially a financial problem rather than a technical problem. It is therefore suggested that the right approach is not to engage in what will be a fruitless attempt to alter the rules with regard to the valuation of land but to consider the extent to which it may be reasonable to press the Government to pay for a reasonable share of the cost of land acquisition by local authorities for their statutory powers and duties in so far as the facts show that the Government is not already contributing.

"There appear to be very strong equitable grounds for local authorities to press the Government on this matter. For its part the Government receive additional revenue from these land transactions, either from estate duties or other forms of taxation, none of which accrues to local authorities. Local authorities with their rateable value income basis are not in the same position.

"Very often betterment in land values results from expenditure by the local authority in the course of their statutory duties. As other legislative means have apparently failed it seems unreasonable that the whole of the additional burden due to the cost of land should fall upon the local authority. If an Exchequer grant is received, it would at least mean that the whole burden would not fall upon the local community."

On this assumption, the committee have considered the various categories of land purchase.

Redevelopment

On the question of redevelopment, they argue that as the Government are urging local authorities to redevelop blighted areas they should give encouragement by financial support and that the impetus of a generous grant for the early years of redevelopment would prove invaluable. Asking for grants often implied asking for controls, but in the case of comprehensive redevelopment there were already stringent Town Planning and loan sanction controls. The county boroughs were already receiving in the block grant an element for blight redevelopment, but this was distributed on a uniform national basis whereas inquiries showed that expenditure on comprehensive redevelopment was extremely uneven in its incidence.

The report continues: "We think that the emphasis on redevelopment, the passing of the 1949 Act and the increase in the cost of land represents the grounds for asking for the whole question of redevelopment grants to be reopened, particularly in the case of non-county boroughs with extensive redevelopment problems and possibly on the basis of a grant for the first years only for each area."

Other points made by the committee are as follows:—

Open Space Purchases

The burden of the cost of acquiring land for providing parks, playing fields, playgrounds and other unremunerative open spaces will in all probability fall most heavily on those towns where the serious shortage of land creates the high cost. There is a case for adequate grants.

Housing Land

There is an established basis of Government aid in the form of subsidies. The existing subsidy for expensive sites (which applies to all "approved" dwellings, i.e., including those for "general needs") operates for sites costing £4,000 an acre or more and in terms of loan charges on a

60 year basis amounts to approximately 50 per cent. of the cost. Historically, after the war up to 1956, housing subsidies were on a 75 per cent./25 per cent. basis and there seems little doubt that the present high cost subsidy is related to a rate of interest of about 4 per cent. As interest rates have risen the effective rates of the Government contributions have fallen.

Over £4,000 per acre, therefore, the Government already meet part of any higher prices. It is a matter for the housing committee to consider whether the Association should press the site cost problem as a separate issue either in terms of seeking a lowering of the £4,000 limit or increasing the rate of subsidy.

Trading Undertakings

The committee cannot see on what basis they can advise making out a case for grants for the cost of land required for water supply, airports, entertainment purposes, public transport and other forms of municipal activities which are either unquestionably commercial undertakings or are liable to be in competition with similar private enterprise undertakings and enterprises.

Highway Purchases

In so far as classified road improvements are concerned, the cost of land is already an element in the existing grant structure and the Government therefore already bear a substantial share of higher prices.

Covered by Grant

Land is required for a number of services which are either covered by the general grant or by a specific grant. As the Exchequer is already bearing a proportion of the cost, the committee do not consider that they can raise the cost of land as a separate issue.

Social Purposes Land

There is a residuary class of local authority land purchase which is difficult to define, but which includes those types of social amenities which are normally provided for the community as a whole by the local authority. The following examples illustrate this category: Cemeteries and crematoria; allotments and smallholdings; public halls, civic offices and courts; drainage and sewerage and sewage disposal; refuse disposal, swimming baths.

In the whole of this subject the final test must be to balance the needs and claims for financial help against the practical possibility of obtaining it and the reasonable grounds upon which a claim could be put forward. In the course of discussions the committee did examine a suggestion for asking for a Government grant for all land purchased by local authorities, but came to the conclusion that this was impracticable and that it was necessary to concentrate on those cases in which they could make the best possible approach. In all the circumstances they do not consider it advisable to seek grants for the above-mentioned types of land purchase.

The committee add: "We are firmly of the view that grants for land purchase for comprehensive redevelopment should be direct from the Government to the purchasing authority and that the expedient of including a land purchase element in the block grant is unfair in operation. Moreover, the problem of 'blight' and the incidence of the need for redevelopment and 'loss' is so variable as to make it unsuitable for inclusion in a general grant."

Starting Point

On the extent and shape of any grants to be sought the committee suggest the following as a starting point for discussions with the Ministry.

(i) For redevelopment areas: a reinstatement of a separate grant towards loss for a period of years.

(ii) For open spaces: the Government grant should be 50 per cent. of the acquisition cost. This is a "simple solution" which should cause no serious financial worry to the Government and would represent the fair sharing of land acquisition costs for purposes which bring in little, if any, income and which purposes are particularly likely to be prejudiced by high land costs."



Pontoon with trash skirts lowered, showing coupling at extreme left

ALUMINIUM FLOATING BOOM AT TUMMEL GARRY PROJECT

Protecting Turbine Grids

An aluminium floating boom, designed to prevent buoyant trash from blocking the turbine grids, has been provided in Loch Faskally in connection with the Pitlochry Dam part of the Tummel Garry project, for the North of Scotland Hydro-Electric Board.

The structure, which is 600ft. in length, consists essentially of 24 light alloy pontoons, suitably linked together and appropriately anchored at each end to the shore and at four other points off-shore. Provision is also made for opening a section of the boom if required, so that accumulated debris can be disposed of by sluicing it away over the flood gates.

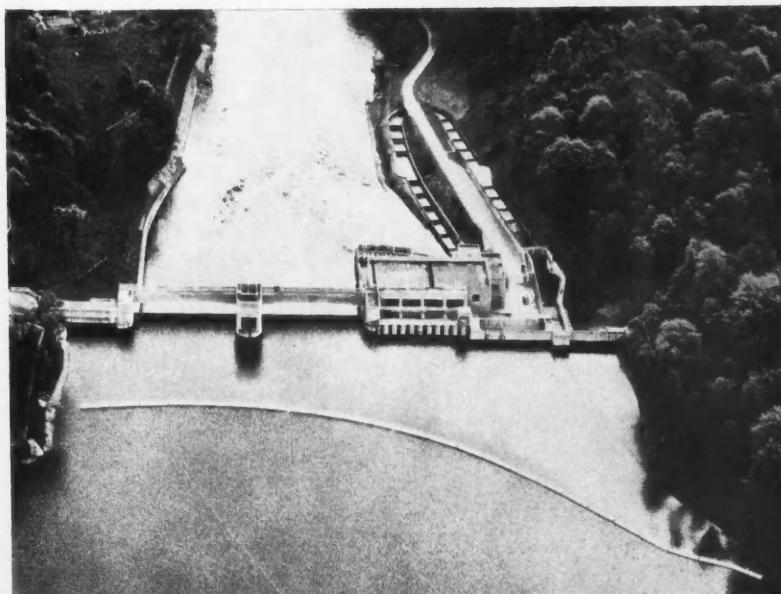
The pontoons themselves are comprised basically of two rows of three rectangular water-tight compartments approximately 7ft. long by 1ft. 10in. wide and 10in. deep,

formed from $\frac{1}{2}$ in. thick plate. On the upstream side of each pontoon three removable skirts are fitted, made of 10 gauge flanged aluminium alloy plate, these being designed to intercept trash. On the top of the pontoons is a walkway made of extruded Duratread, self-draining and giving grip under icy or slimy conditions.

The use of aluminium alloys for this structure is dictated by the inherent resistance of the material to attack by acid water and the elimination of any need for painting.

The consulting engineers are Sir Alexander Gibb and Partners, and the chief civil engineer to the Board is Mr. L. H. Dicker-son, M.I.C.E., A.M.I.W.E.

Non-Corrosive Metal Products, Ltd., West Drayton, Middlesex, built the boom, and the pontoons were assembled by Argonaut Welding. Aluminium alloys used were supplied by The British Aluminium Co., Ltd.



Aerial view of Loch Faskally with floating boom in position

PLAN TO EXPAND BRACKNELL TO GO AHEAD

MR. HENRY BROOKE, Minister of Housing and Local Government, is to proceed with a modified version of his proposal to extend Bracknell New Town to provide for an ultimate population of more than double the present planned maximum of 25,000.

A public local inquiry was held on February 21 and 22 into objections to an order which the Minister proposed to make under the New Towns Act, 1946, to extend the designated area of Bracknell by some 1,230 acres on the western and southern sides.

Mr. M. J. Hellier, who held the inquiry, concluded in his report that, apart from one written objection, no issue of principle had been raised by any local authority representative, but that there was virtual unanimity against the proposed inclusion of a salient of land to the south-west. He recommended the inclusion of about 150 acres of land forming part of Peacock and Manor Farms on the west side of the town and about 290 acres of Crown land to the east, and the reduction of the southwest salient by an equivalent amount of land.

FIVE-YEAR PLANS URGED FOR GOVERNMENT SPENDING

The need for regular surveys to be made of public expenditure, over a period of years, and in relation to the prospective resources, is emphasised among the conclusions in the report of the Plowden group, who have been considering for the past two years the problem of bringing public expenditure under better control.

"There is no doubt," states the report, "that chopping and changing in Government expenditure policy is frustrating to efficiency and economy in the running of the public services."

Five-year Plans

In drawing attention to the advantages to the Departments, and through them to the other public authorities, of being able to plan ahead in the field of capital expenditure, the report expresses the hope that it would gradually become possible to develop a system of provisional and tentative departmental allocations five years ahead. These allocations would be firm for the first year, firm for the second year subject to major changes in national situations, provisional for the third year, and tentative for the fourth and fifth years.

CITY AND GUILDS COURSE ON STRUCTURAL DETAILING

The Joint Committee on Structural Concrete state that they welcome the announcement by the City and Guilds of London Institute that a course on structural detailing has been added to their syllabus.

With the ever-increasing use of structural reinforced concrete, the need for some intermediate qualification of this kind has become more and more apparent, say the Joint Committee. It will enable those who are engaged in reinforcement detailing for structural concrete to attain a higher standard of craftsmanship by having a better understanding of their medium.

The Committee hope that designers will encourage appropriate members of their staff to attend the courses which will no doubt be run by technical colleges throughout the country.

F.M.C.E. BURSARY AWARD

The Federation of Manufacturers of Construction Equipment Bursary in the Graduate School of Highway and Traffic Engineering at Birmingham University for the 1961/62 session, has been awarded to Mr. Abdus Saleque, Assistant Engineer, Road Survey Division, Dacca, East Pakistan.

Trade and Company News

NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

W. Beams, Ltd., 42 High Street, Sutton, Surrey, builders. £1,000. Directors: Wm. H. Ruddell and Edmund W. J. Donovan, 3 The Headway, Ewell, Epsom; John H. Wilkinson, 3 Chestnut Avenue, Ewell, Epsom.

A. Yates and Co., Ltd., building contractors. £8,000. Directors: Albert Yates (chairman), 150 Balmoral Road, Morecambe; Robert A. McCorbell, 71 Stanley Road, Morecambe and Heysham.

R. F. Pragnell (Godstone), Ltd., builders. £1,000. Directors: Reginald F. Pragnell and Mrs. Doris E. Pragnell, Sandrock, Godstone. Ponteland Plant and Engineering, Ltd., 30 Woolington Gardens, Woolington, Newcastle upon Tyne, plant hirers. £1,000. Directors: Arthur White and Eunice White, 30 Woolington Gardens, Woolington, Newcastle upon Tyne.

F. J. Merrison and Son, Ltd., 63 Heath View Road, Grays, Essex, builders. £100. Directors: Frederick J. Merrison, Beatrice M. Merrison and Antony J. Merrison, all of 63 Heath View Road, Grays (all permanent).

S. W. Lawrence and Son, Ltd., 59 St. Andrews Street, Cambridge, builders. £100. Directors: Stanley W. Lawrence, 114 Cambridge Road, Comberton, Cambs.; Geoffrey J. S. Lawrence, West Street, Comberton, Cambs.; Mrs. Harriett E. Lawrence and Mrs. Molly A. Lawrence.

E. J. Connolly, Ltd., 84 Princes Road, Feltham, Middx., plant hire contractors. £100. Directors: Edward J. Connolly, 84 Princes Road, Feltham, Middx.; Garrett O'Sullivan, Felsenheim, Main Street, Hanworth, Middx.

Bevelon Builders, Ltd. £100. Directors to be appointed by subscribers. Subscribers: Dorothy M. Graeme and Paul G. Graeme, 61 Fairfield Avenue, Gillingham.

S.S. Fabrications, Ltd., steel fabricators. £1,000. Directors: Arthur P. Smith, 1 Carol Crescent, Hawne, Halesowen, Worcs.; Albert Sawyer, 14 Bourne Crescent, Halesowen, Worcs.

D. R. Golden and Son, Ltd., builders. £2,000. Directors: Dennis R. Golden 85 Whitchurch Lane, Edgware, Middx.; George E. Golden, 28 Marsh Lane, Stanmore, Middx.; Martin G. O'Donnell, 17 Lyon Road, Harrow, Middx.

Hugh Goodfield, Ltd., 2 South Quay, Great Yarmouth, builders. £1,000. Directors: Wm. L. Hughes, 48 St. Andrews Road, Gorleston-on-Sea; Stanley W. Goodrum, 103 Balio Road, Gorleston-on-Sea; R. J. Goodrum.

Lintsgain, Ltd., civil engineering contractors. £100. Directors to be appointed by subscribers. Subscribers: Jean Herbert and T. A. Herbert, 156 Strand, W.C.2.

V. J. S. Doddrell, Ltd., builders. £500. Directors: V. J. Doddrell and Helen R. W. Doddrell, 12 Cecil Road, Weston-super-Mare. John Embleton and Son, Ltd., 90 Oxford Road, Manchester, 13, builders. £2,000. Directors: John H. Embleton, 60 Gatley Road, Cheadle, Cheshire; Roy F. Embleton, 10 Maltmans Road, Lymn, Cheshire; Mrs. Emily F. Embleton and Mrs. Eva Embleton.

White Bros. (Chorley Wood), Ltd., 46 Talbot Road, Rickmansworth, Herts, builders. £100. Directors: Cecil White, Common View, Chorley Wood; Harold White, Dorset House, Chorley Wood; Gladys M. White and Florence M. White.

E. W. Clark and Sons (Builders), Ltd., 36 Prykes Drive, Chelmsford. £500. Directors: Richard R. Clark, 36 Prykes Drive, Chelmsford; John E. Clark, 51 Elizabeth Avenue, Witham; Ellen F. Clark.

A. L. Mitchison and Co., Ltd., builders. £100. Directors: Archibald L. Mitchison and Aileen B. Mitchison, 42 Greenford Gardens, Greenford.

C. Taylor and Son (Sussex), Ltd., 110 Cannon Street, E.C.4, builders. £3,000. Directors: Stanley D. Chapman, 32 Oakley Road, Warlingham, Surrey; Gordon A. Chapman, Portside, Kingswood Lane, Warlingham; Cyril J. Chapman and William Prady.

May and Simeons, Ltd., Guildhall Chambers, High Street, Exeter, builders. £5,000. Directors: Chas. E. May, 13 Monmouth Avenue, Topsham, Devon; Edmond C. May, Licha, Majorfield Road, Topsham, Devon; Sidney May Leonard May and Jack May.

P. Mulkerrins (Plant Hire), Ltd., 2 Queens Road, Watford, Herts. £100. Directors: Patrick Mulkerrins, 139 Rickmansworth Road, Watford; Christina M. Mulkerrins, 139 Rickmansworth Road, Watford; Nigel B. Osler, 8 Kenford Close, Garston, Watford.

Tynside Structures, Ltd., 47 West Street, Gateshead, 8, steel fabricators. £15,000. Directors: Ralph H. Bainbridge, 65 Wrangs Lane, Whickham, Newcastle upon Tyne; Reuben Dumigan, 292 High Street, Gateshead, 8; Geo. Dumigan, Raymond Dumigan and Douglas A. Watson.

Herrard, Ltd., 10 South Pallant, Chichester, Sussex, builders. £1,000. Directors: John G. Story and Mrs. Phyllis Story, Bell Bungalow, Ellifield, near Basingstoke, Hants.

H. J. Chilton, Ltd., Grange Chambers, Uxbridge Road, Hayes, Middx., builders. £100. Directors: Henry J. Chilton and Mrs. D. E. E. Chilton, 3 Baxter Close, Hillington Heath, Middx.

A. J. Alder and Son, Ltd., 85 Shaftesbury Avenue, W.1, constructional engineers. £100. Directors: Alfred J. Alder and Mrs. Rhoda G. Alder, 68 Alliance Road, S.E.18.

Withington and Windeler, Ltd., 20a Kennedy Street, Manchester, general contractors. £2,000. Directors: John W. Waller and Elizabeth Waller, 21 Edge Lane, Chorlton-cum-Hardy, Manchester; Wm. B. Irving, 48 Park Drive, Manchester, 16.

Moulded Concrete, Ltd., Ropin Path, Yeovil, Som., £100. Directors: Norman W. Shiner, 20a Station Avenue, Walton-on-Thames; Thos. C. Shiner, 147 Lodge Lane, Grays, Essex.

Kirk Developments (Skipton), Ltd., builders. £1,000. Directors not named. Subscribers: Margaret B. Braithwaite, 78 Birkby Lodge Road, Birkby, Huddersfield; Sidney Chadwick, 8 Battye, Avenue, Crosland Moor, Huddersfield.

L. G. Bradshaw and Sons (Ready-Mix), Ltd., Bull Close, Bedford Road, Barton, Beds. £1,000. Directors: Louis G. Bradshaw and Eva M. L. Bradshaw, Bedford Road, Barton, Beds.

R. A. Cox, Ltd., 8 Eccleston Square, S.W.1. £1,000. Directors to be appointed by subscribers. Subscribers: Thomas H. D. Green, 8 Eccleston Square, S.W.1 (accountant); Percy F. Chisnall, 9 Lavender Road, S.W.1 (clerk).

Tyne Tees Builders, Ltd. £20. Directors: George Howe, Baydale House, Coniscliffe Road, Darlington; Arnold J. Gough, 6 Creek Road, Darlington; John Lawton.

Port Talbot Plant, Ltd., 8 Newbridge Road, Port Talbot, Glam., hirers and dealers in plant, machinery, etc. £200. Director: David M. D. Mort, 8 Newbridge Road, Port Talbot.

St. Helens Building and Civil Engineering Co., Ltd. £2,500. Directors: Joseph Pickavance, 35 Consett Road, St. Helens; and Peter B. Evans, 186 Score Lane, Childwall, Liverpool, 16.

Lindum (Plant Hire), Ltd., Silverwood Place, St. Edmund, Lincoln, hirers, letters on hire, buyers and sellers of and dealers in plant, machinery, etc. £100. Directors: John F. Chambers, Northgate, Washington Road, Heighington, Lincoln; Anthony J. Neary, 1 Park Avenue, Hartsholme, Lincoln; Mrs. Barbara F. Chambers and Mrs. Pearl Neary.

James Flynn and Son, Ltd., 89b The Broadway, S.W.19, excavating and demolition contractors. £1,000. Directors: James Flynn and Rose Flynn, both of 4 Surbiton Hill Park, Surbiton, Surrey.

Buckle Bros. (Dishforth), Ltd., 1 Mowbray Avenue, Dishforth, Thirsk, builders. £3,000. Directors: John Buckle, 1 Mowbray Avenue, Dishforth; and John E. Metcalf, 4 Grange Close, Dishforth.

Seaford Plant Hire, Ltd., 94 Church Road, Hove, 3. £100. Directors: Kornal Mikolay, 25 Bishopstone Road, Seaford, Sussex; and Fredk. L. J. Suren, address not stated.

Icos (Great Britain), Ltd., 12 Whitehall, S.W.1, general builders, etc. £50,000. Directors: To be appointed by subscribers. Subscribers: J. S. Watkin and M. Edwards-Evans, 12 Whitehall, S.W.1 (solicitors).

George Earle and Son (Builders and Contractors), Ltd. £5,000. Permanent directors: George N. Earle; George N. Earle, Jr.; Cissie Earle and Josephine E. Earle, all of Earle House, Blyth Road, Oldcotes, Worksop.

T. E. and E. Wright (Builders), Ltd., 5 Oaklands Drive, Bessacarr, Doncaster. £4,000. Directors: Thomas E. Wright and Mrs. Edith Wright, 5 Oaklands Drive, Bessacarr, Doncaster.

A. A. MacKay Constructions, Ltd., builders. £1,000. Directors: Alan A. MacKay and Edith G. MacKay, 69 Hamilton Road, Reading.

Y.T.D. Plant Hire, Ltd. £100. Directors: To be appointed by subscribers. Subscribers: Donald Best, 15 Gladstone Road, Rawdon, near Leeds; and Kenneth C. King, 2 Regent Road, Horsforth, Leeds (clerks).

Civil and Civic Contractors (Pty), Ltd. British Address: 59 Sloane Street, S.W.1. Registered in Sydney, N.S.W. To carry on the business of contractors, engineers, architects, etc. £500,000. Names of persons authorised to accept service: Benny Davis, Wm. L. Norman, Wm. Rosser-James, Victor W. Trow and Paul D. Davis, 59 Sloane Street, S.W.1.

K. D. Winterburn and Son, Ltd., Lauriston House, North Place, Cheltenham, builders. £1,000. Directors: Karl D. Winterburn and Marjorie I. Winterburn, Kar-Mar, Undercliffe Avenue, Cheltenham; and Karl S. Winterburn, The Chase, Pilford Avenue, Cheltenham.

Bristol and Darlington Investments, Ltd., 80 Chamberlayne Road, Kensal Rise, N.W.10, builders. £10,000. Directors: George Bristol, 30 Tavistock Avenue, Perivale, Greenford, Middlesex; George T. Bristol, 23 Runnymede Gardens, Greenford, Middlesex.

Rodney Killip (Joiners and Builders), Ltd., 27/31 Minshull Street, Manchester. £100. Directors: Rodney Killip, 16 Mayfield Road, Whalley Range, Manchester; John C. Killip and Ellen E. Killip, 9 Marshal Road, Hazel Grove.

James Miller and Partners (Hayes), Ltd., civil engineering and public works contractors, etc. £100,000. Directors: Alfred H. Buckley, Westwinds, Chapman Lane, Bourne End, Bucks.; James Miller, Jr., The Spinney, Barnet Park Drive, Edinburgh; Sir James Miller and John M. Miller.



The latest MK 11 Merton 454 four-wheel-drive Overloader has improved bucket, digging arms and improved crowd angle of 40 deg., a longer wheelbase giving improved stability and digging power and 36 deg. front and rear vision. Other features are power steering, heavy-duty clutch and lighting equipment as standard—with torque converter drive as an alternative. It is powered by the Fordson four-cylinder diesel engine developing 54 b.h.p. Price £2,495 ex works with 1½ cu. yd. rated capacity bucket.

Trade and Company News**HOVERINGHAM ENGINEERING JOINS AVELING-BARFORD**

AVELING-BARFORD, LTD., have purchased Hoveringham Engineering Company, Ltd., from Hoveringham Gravels, Ltd., for the approximate price of £300,000. Hoveringham Engineering Company, Ltd., are manufacturers of structural steelwork, colliery surface plant, conveyor systems and mechanical handling equipment. They will continue to operate under their own name within the Aveling-Barford Group.

Disposal of the Engineering Company will enable Hoveringham Gravels, Ltd., to concentrate entirely on their sand and gravel interests. They will also, as part of the contract and subject to satisfactory price arrangements, obtain all their gravel plants for the next ten years from the Aveling-Barford Group of Companies. The first such plant is being installed at Rainham, Essex, and will commence production by September. This will then be the largest gravel plant in the United Kingdom, apart from that at Hoveringham.

PIPES AND PIPELINES EXHIBITION

The 2nd International Pipes, Pipelines, Pumps and Valves Exhibition and Convention is to be held in April, 1962, at Earls Court, London. Over 100 companies have already booked stand space, many of whom represent overseas companies, as well as British manufacturers and construction organisations, it is stated.

A technical convention is to be held in the exhibition buildings at the same time and full details of this as well as remaining available stand space can be obtained from The Organiser, Scientific Surveys, Ltd., Exhibition Division, 97 Old Brompton Road, London, S.W.7.

AFRICAN ORDERS FOR A.E.C.

An increasing business from the African continent is reported by A. E. C., Ltd. Recent orders include one from the Rhodesian Asbestos Corporation for five Mammoth Major six-wheelers, and another from African Timber and Plywood (Nigeria), Ltd., for 11 Militant logging vehicles.

NEW EQUIPMENT AT A "GARDEN PARTY"

ON 6,500 sq. ft. of lawns in front of their premises on the Coventry Road, Abelson and Co. (Engineers), Ltd., Birmingham, recently held a different kind of "garden party".

For five days V.I.P.s from Midland industry were the guests and they had their first provincial view of new tractors and associated industrial equipment, introduced

STAFFA POWERED BAR BENDER

AN addition to the range of bar and section benders made by Chamberlain Industries, Ltd., Staffa Works, Argall Avenue, London, E.10, is a new semi-automatic machine designed to bend back mild steel bars up to 1½ in. capacity.

A three-way control handle is fitted for forward, neutral and reverse positions and the rotating roller attached to the plate is controlled for angle of bend by means of a pin which can be placed in any of the holes provided to suit requirements. In order to obtain maximum bending speed, three pulleys are provided in an accessible guarded position. An adjustable plate is fitted to provide reaction close to the point of bend, thus ensuring a consistent radius throughout.

The power is provided by a 3 h.p. motor on an adjustable tensioning table provided with an isolator switch suitable for a 440/3/50 A.C. current supply. Interchangeable steel formers equal to 4 x D are provided to bend reinforced concrete bars from ½ in. to 1½ in. diameter to standard radii.

WARD'S MACHINERY CATALOGUE

The T.W.W. Machinery Catalogue, published twice a year by Thos. W. Ward, Ltd., has appeared with a completely new cover design. The old blue and red cover is replaced by a photograph which extends from the front to the back cover, depicting a panoramic view of the Sheffield Machinery Showroom. Thus, the new cover now gives an instant summary of the catalogue's contents.

Seven sections are included, covering the Company's stocks of new, reconditioned and secondhand machinery and machine tools.

MARLEY ACOUSTIC DIVISION

With the introduction of three new acoustic tiles, the Marley Group, Sevenoaks, Kent, have inaugurated an acoustic service which, free of charge, will advise on all technical aspects and quote for complete acoustic systems on a supply and fit or supply only basis.

**MOUNDED WELDER**

THE Tooley Electro Mechanical Co., Ltd., New Street, Earl Shilton, Leics., have developed a welding generator set for mounting on the rear of any standard Land-Rover fitted with a rear power take off and oil cooler.

A permanent magnet welding unit, it weighs about 150lb. It has 17 different current settings from 30amps. to 250amps. by a simple control switch. This enables heavy steel section or 18G sheet steel to be welded, the welder having no brushes or resistance bank. The price is £192 ex works without cables, tongs, etc.

HIGH STRENGTH PLASTIC PUTTY

Cable Covers, Ltd., St. Stephen's House, London, S.W.1, have produced a plastic putty known as Talurit which when formed sets rock hard, and so can be used for most repair jobs or for sealing cracks or holes in all types of hollow piping.

The putty consists of two separate components—a resin and a hardener—which are integrated in the hands. It cures in anything from 1½ to 18 hours according to room temperatures, attaining considerable strength and high electrical insulation qualities. The ultimate tensile strength is said to be 700lb. p.s.i., and the compressive strength, 11,200lb. p.s.i.

TRADE NEWS IN BRIEF

Copies of a report on the traverse shear characteristics of waterstop materials are available from **Tretol-Servicised, Ltd.**, Expanding Jointing Division, 2 Caxton Street, London, S.W.1.

Blaw Knox, Ltd., Short's Way, Rochester, have published a new catalogue (No. 325), which has been designed around a "story strip" technique with sectional views, showing how the "Moretrench" well-point dewatering system controls ground water in various types of excavation.

Hubert H. P. Grist and Co., Ltd., are opening a new service depot at 86 Castle Street, Reading (Tel.: Reading 51476) under the management of Mr. S. O. Boardley, the local representative being Mr. O. R. Waite.

From Rotary Hoes, Ltd., West Horndon, Essex, an illustrated leaflet describing the Equilift Jack.

From Tube Investments, Ltd., London, W.C.2, a brochure produced by their subsidiary company, **Metal Sections, Ltd.**, describing a new design of guard rails for roadways.

Materials Handling Equipment (Great Britain), Ltd., announce that as from August 24, production and key personnel will be transferred from Maidenhead to the larger works of the Hunslet Engine Co. at Jack Lane, Leeds. The London and Maidenhead offices are to be merged, and from August 21 will be located with the Hunslet Group London offices at Locomotive House, 30/34 Buckingham Gate, London, S.W.1.

The Mercantile Credit Co., Ltd., announce that their northern accounting office has moved to Berkeley House, Victoria Avenue, Harrogate, Yorks.

George Sheppard (Hatfield), Ltd., have changed their name to **George Sheppard Construction, Ltd.** The head office and accounts department of the company will be at Rymer Lane, Barnham, near Thetford, Norfolk, and the contracts department will continue to operate from the London area office at St. Albans Road, Hatfield.

COMPANY RESULTS

George Cohen 600 Group.—Group profits for year ended March 31, 1961, £1,400,715 (£1,573,315). Net profits £644,808 (£785,071). The Group are repeating their 13 per cent. dividend as forecast.

Sir Lindsay Parkinson and Co., Ltd..—Group profit for 1960, £359,711 (£313,022). Net profit £202,068 (£153,117). Final dividend 11 per cent., making 15 per cent., against a minimum forecast of 13½ per cent. on a capital doubled by a rights issue.

Ruston and Hornsby, Ltd..—Group profits for year ended March 31, 1961, £1,801,788 (£1,859,305). Net profit £491,119 (£625,708). Dividend 9 per cent. (same).

Lafarge Aluminous Cement Co., Ltd..—Net profit for year ended March 31, 1961, £189,797 (£156,002). Final dividend 35 per cent. and a bonus of 10 per cent., making 60 per cent. (50 per cent., which also included a 10 per cent. bonus).

RE-OPENING OF TURNHOUSE AIRPORT

£150,000 Civil Engineering Works

TURNHOUSE AIRPORT, Edinburgh, which was closed last April for work to be carried out for runway and apron strengthening and construction of a new taxiway link, has now been re-opened.

During the period of the closure a new customs block, with a link block connecting it to the existing terminal, has been under construction. In harmony with the terminal, the customs block will be of stone and mahogany boarding construction, the interior lined with spruce boarding and with a painted timber ceiling.

A dominant feature of the block will be its roof of vertical mahogany boarding. Along its entire base will be a section of glass panelling which serves to free the roof from the walls. Incorporated in the roof is a cat-walk to permit of the servicing of the lighting and heating installation. Work on this building will not be complete when the airport re-opens.

The provision of the customs block, together with alterations in the terminal building, will almost double the accommodation for passengers in the main concourse.

Labour Force

A labour force of some 100 men has been engaged during the past four months in the work of preparing and laying 50,000 tons of asphalt and concrete on the runway, apron and new taxiway. In the

earlier stages, when 2,500 tons of material was being laid per week, the men were working 14 hours a day on seven days a week.

From the plant at Blackridge, West Lothian, 22 miles away, 50 10-ton loads of asphalt have been transported to Turnhouse every day, and a total of 10,000 tons of aggregate (stone and sand) has been hauled from Carstairs to the concrete-mixing plant set up on site.

Laid by machine and then rolled, the asphalt has been spread over an area of 100,000 sq. ft. and has raised the level of the 6,000ft. runway by at least 5in.

To permit the installation of a centre-line lighting duct, a trench, 3ft. deep by 18in. wide, had to be cut along the entire length of the runway before the asphalt was laid.

Fifty-seven lighting pits have been sunk at points between the runway extremities; side lights have been removed from the extreme edge of the runway to a position 15ft. at the rear of the edge; and new threshold bar lighting has been installed at both ends of the runway.

Visual glide path indicators will also be brought into use when the airport re-opens. Positioned close to the runway thresholds, these boxed lights provide the pilot with a visual aid on approaching to land and indicate whether he is at correct height. In the installation of the new runway lighting, 20,000yd. of cabling has been laid.

The existing instrument landing system

at the airport has been replaced by a new one and is now complete with a glide path.

To improve the field of vision of air traffic controllers, a Dorval-type aerodrome control tower is being installed on top of the existing tower building. Work on the erection of this glass house is expected to take place shortly after the re-opening of the airport.

The car park at Turnhouse has been considerably enlarged and will now provide accommodation for 250 cars.

Work on the runway, apron and new taxiway link has been carried out at a cost of about £150,000 and on the new customs block and link block of £50,000.

Consultants and Contractors

The architects for the customs block and link block are Robert Matthew and Johnson-Marshall, Edinburgh, and the consulting engineers are T. Harley Haddow and Partners, Edinburgh. Ian Hunter and Partners, Edinburgh, are the heating and electrical consultants, and the quantity surveyors are Reid and Gibson, Edinburgh. Nathaniel Grieve, Edinburgh, are the general contractors.

Among the principal sub-contractors for this section of the scheme are the following: Excavator, mason, brick work, C. N. Macklin; pavior and plasterer, D. J. Borthwick; pavior, patented rubber flooring, R. J. Morpeth; felt roofing, Macartney, Ltd.; plumber work, D. Stevens; painter work, J. C. Rolland; structural steelwork, Lambhill; heating installation, G. N. Haden and Sons, Ltd.; electrical installation, Eastern Electric Co.

The runway, apron and taxiway work was carried out under the direction of the Director of Works, Civil Aviation. The general contractors were Limmer and Trinidad Lake Asphalt Co., Ltd.

BOOK REVIEWS

A Guide to the B.S. Code of Practice for Prestressed Concrete (No. 115 : 1959) by F. Walley and S. C. C. Bate, Publishers, Concrete Publications, Ltd. 95 pages. Price 12/6d.

This book follows the pattern of the Explanatory Handbook on C.P. 114, of which most engineers will be familiar. The code is reproduced in full, in type smaller than the main text, and is identified by a black marginal line. Explanations and comments follow each clause, amplifying it and frequently giving reasons for its adoption or its particular form.

The commentary is the authors' own, but, in view of their association with the drafting committee, it may be reasonably assumed that the text carries authority above that which they already bring to it as experienced engineers, both for some time with the Ministry of Works. In addition to tables produced from the Code, twelve others are given illustrating the properties of concrete, the behaviour of prestressed beams and other significant features of the Code, and there are also a number of descriptive diagrams, graphs and charts.

Many of the Code's recommendations follow those of CP.114 and this similarity is brought out by the authors. A number of requirements, such as cover to tendons, appear conservative, but sufficient experience of the behaviour of prestressed concrete has not yet been obtained to justify bolder recommendations. Nevertheless, the Code is a notable advance on "The First Report on Prestressed Concrete" which was published by the Institution of Structural Engineers almost a decade ago, and this book is a most useful commentary on CP.115.

Prestressed Concrete Simply Explained, by H. Kaylor, Publishers, Contractors Record, Ltd. 158 pages. Price 28s.

A reminder of the valuable contribution made by the Ministry of Works to the development of prestressed concrete is given by another book on the subject from a former member of the Ministry staff. Apart from his consulting work, Mr. Kaylor will be familiar to many who have

attended the lectures he has given up and down the country carrying out the Ministry's policy of publicising the advantages of this relatively new material. His book follows his talks in setting out the subject lucidly, describing the complicated techniques in simple terms.

After describing the basic principles of prestressed concrete the author deals with pre-tensioning and post-tensioning methods and detailing, with many excellent illustrations, mainly photographs. The Freyssinet system has to suffer an involved though excellent description in the text with the sole help of an unannotated cross-section of the jack; the Magnel-Blaton system, on the other hand, is better illustrated but not to the same extent as the Lee-McCall method with its excellent progress photographs. In all of these and in the P.S.C. and the B.B.R.V. systems, a detailed exploded view of anchorages would be of help in understanding the stressing processes.

Materials and their properties are covered in the third chapter, and this is followed by a full and clear exposition on the losses due to prestress which would repay close study. Many worked examples are given to illustrate the principles of design of simply supported beams, and these should enable the reader to get a firm grasp of the fundamentals. The book is primarily intended for architects and for engineers new to the technique of prestressed concrete and therefore the theoretical treatment has been limited to determinate members, primarily simply supported beams. Reference is made throughout to Code of Practice 115 (1959) — "The Structural Use of Prestressed Concrete in Buildings".

Some specific uses of prestressing techniques are described in the final chapters, with reference to composite construction, particularly in bridge work, and to liquid retaining structures. There are short descriptions of many recently completed structures, most of them in the United Kingdom.

£2M. PILING CONTRACT COMPLETED

The piling contract valued at over £2m. undertaken recently by West's Piling and Construction Co., Ltd., at Llanwern, Newport, for Spencer Steelworks was the company's largest single contract to date.

As the area was poorly drained and marshy in parts, over 8m. cu. yd. of fill were spread over the 3½ mile long site to obtain a suitable surface at the correct level.

West's Piling were nominated as principal piling sub-contractors to Sir Robert McAlpine and Sons (South Wales), Ltd., who are the main civil engineering contractors. Since February, 1960, they have installed approximately 40,000 reinforced concrete tubular shell pipes of 14½in., 17½in., 20in. and 24in. diameter by their pile driving system.

Below the fill there is a natural top soil followed by silty clay and peat with a layer of sand in some parts overlying the deep Keuper marl stratum in which the piles are founded. Individual pile depths have varied from 28ft. to 45ft. with an average of 38ft. per pile for the total driven length of 1½m. ft.

£3M. SYNCHROTRON PROPOSAL

Rock Foundation Sought In N.W. England

A site in Cheshire or South Lancashire is being sought for a high energy synchrotron to be used in particle research by the physics departments of Manchester and Liverpool Universities, on behalf of the National Institute for Research in Nuclear Science.

The machine, which with ancillary laboratories and equipment will cost about £3m., will be more than 50yd. across, but when erected must be stable to within half a millimetre, and for this reason a rock foundation will be needed. Trial borings are already being carried out at a site in Wirral.

International Construction

COLORADO RIVER STORAGE PROJECT

Work At Glen Canyon Dam

ONE of the key structures of the Colorado River Storage Project, the Glen Canyon Dam is now in its fifth year of construction and incorporates a number of interesting civil engineering features. It will, it is claimed, be the third highest dam in the world; will create the third largest reservoir in the world; and will incorporate the seventh largest hydro-electric power plant in the United States.

Under the Colorado River Compact of 1922 the use of water from the river is apportioned between the Upper and Lower Basins and it is required that the Upper Basin shall pass to the Lower Basin substantial quantities of the full flow of the river in each successive 10-year period. Thus, the availability of the Upper Basin states' share depends on regulation of the stream flows by several storage units, since the volume of water in the river fluctuates sharply from year to year.

Of the four initial water storage units authorised, Glen Canyon is the largest. Only 15 miles above the dividing line between the Upper and Lower Basins, it will store no irrigation water for use upstream or in the immediate vicinity of the dam, but it is the principal unit storing water to regulate the river and to fulfil compact commitments to the Lower Basin. The sale of hydro-electric energy at the multipurpose dams will return practically all the cost of the project and large part of the cost of the 11 participating irrigation projects authorised for the initial Upper Basin development, which will irrigate about 130,000 acres in new farms and improved irrigation on about 230,000 acres in old ones. In addition, water from the four storage reservoirs will, as planned, turn generators of about 1,200,000-kW capacity and industry will use the power. Mineral deposits, including uranium, will be mined, and flood control and navigation on the Colorado River will be improved.

Apart from one small stream, all the tributaries of the Colorado enter the river above the site of the Glen Canyon. This project is located, so to speak, in the stem of a gigantic funnel which collects water

from the entire Upper Basin. The concrete arch dam will rise about 700ft. above bedrock between vertical walls of massive red sandstone. Its 1,500ft. curved crest will span the 1,200ft. straight line distance between the canyon walls. The dam will be 300ft. thick at the base and 35ft. wide at the crest. The Powell Reservoir impounded by the dam will extend 186 miles up the Colorado River and 71 miles up the San Juan River, will cover an area of 162,700 acres and

will have a capacity of 28,040,000 acre-ft.

Its downstream

power plant will house eight turbo-generators each of 112,500-kW capacity. Construction to date includes the building of a town at Page to house contractor and government personnel, and access roads to the site; a steel arch vehicle bridge across the canyon; two cableways of 50 tons and one of 25 tons capacity; two lined diversion and spillway tunnels; the building of coffer-dams and the excavation of the keyways and base of the dam; and the beginning of concrete placing in the dam on June 17, 1960. Concrete pouring will continue during 1961 and 1962 and, according to present plans, the first power will be produced in 1964.

Diversion Tunnels

Excavation of the right (west), 2,740ft. long, diversion tunnel was the first major

construction job to be undertaken under a \$2,452,340 contract awarded to Mountain States Construction Co. This tunnel, begun in October, 1956, is 43ft. 6in. in diameter upstream and 46ft. 6in. in diameter in its downstream portion. To gain access to the portal area in the bottom of the canyon, the contractors erected an aerial cableway across the gorge, by means of which men and equipment could be lowered to the work area. In addition,



Bridge spanning the canyon



Downstream face of Glen Canyon Dam

other vertical lift cables and cages were installed on both sides of the canyon to lower men and equipment for surveying and drilling and blasting. The main contract for the construction of the dam and power plant, the construction of the left tunnel and completion of both tunnels was let in April, 1957, to the Merritt-Chapman and Scott Corp., New York, under a bid of \$107,955,522. This is thought to be the largest single contract ever awarded for the construction of a dam and it is the largest contract ever awarded by the U.S. Bureau of Reclamation, for whom the work is being done.

Work on the left (east) diversion tunnel was begun as soon as men and equipment could be assembled and this was followed by rock excavation for the dam abutments above the water level and concrete lining of the right diversion tunnel. Before the completion of the left tunnel lining, however, advantage was taken of the reduced seasonal flow in the river in November, 1958, to divert it through the right diversion channel and to begin construction of the cofferdams. The left diversion tunnel was lined in time for it to participate in taking the river water during the full-flow season in the spring of 1959. Common and rock excavations of about 1,322,000 cu. yd. and 3,514,000 cu. yd., respectively, were required in the river bed before the placing of concrete in the dam could be begun in June, 1960.

Foundation grouting at the dam site has consisted of low-pressure shallow grouting at the upstream face of the dam, followed by the high-pressure injection of a deep curtain in the same area. The low-pressure work was carried out through holes drilled at 20ft. centres to a depth of 25ft. prior to the placing of the concrete. The deep curtain high-pressure grouting is being done, after the concrete has reached a sufficient height, through holes drilled from the foundation gallery at 10ft. centres and to depths varying up to 250ft.

Foundation drainage is being effected by means of holes drilled into the foundation rock from the floor of the main foundation gallery and from the roof and floor of the foundation tunnels, which extend into each abutment. Provision has also been made for further drainage holes to be drilled, if necessary, from a second foundation gallery running parallel to and downstream of the main foundation gallery. Drainage water will be collected in a sump off the lowest point in the gallery system and pumped out of the dam.

For construction purposes the dam has been divided into columns or blocks by radial and circumferential contraction joints, the blocks ranging in size from 55ft. by 170ft. in the downstream portion at the base to 70ft. by 130ft. in the upstream portion. Monolithic action and the desired stress distribution are being achieved by grouting the contraction joints through a system of pipes embedded in the concrete adjacent to the joints. Interlocking of the contraction joints is being effected by keys formed to provide a maximum cross-sectional area for resistance to shear after grouting.

Concrete Placing

Concrete placing is scheduled at the rate of approximately 9,000 cu. yd. per day, the contractor having the option of placing the concrete in either 5ft. or 7ft. 6in. lifts. The rate of concrete placing in any block is restricted so that not more than one horizontal lift can be placed in 72 hours. A maximum vertical difference of 25ft. in the top surface of adjacent blocks is permitted.

To achieve the goal of about 9,000 cu. yd. of concrete a day, the contractor is using a mix plant with six 4 cu. yd. tilting mixers. At this plant aggregate is stored in a 3,000-ton bin divided into eight compartments each of 375 tons capacity to accommodate all the classes of material required. The compartments are charged by a single conveyor belt which delivers from a permanent stockpile area, this, in turn, being fed from the Government-owned Wahweap Creek deposits. Because the aggregates are reactive with the alkalis in

the cement, low alkali cement is needed and pozzolan from a pumicite deposit in Arizona is being used in the concrete. Cement and pozzolan are stored in silos of 700 bbl. (2,800 cu. ft.) capacity.

Following investigations into concrete mixes using the materials available, the number of sacks of cement per cu. yd. of concrete was limited to 2½ to 3½ for the interior of the dam, while, for the face concrete, the mix would be limited to 3½ to 4½ sacks. In each case, the percentage of pozzolan (by weight of cement) would be limited to 20-35 per cent.

In the concrete used for tunnel lining at Glen Canyon, about 0.25lb. of lignin type, water-reducing, retarding agent was used by the contractor which resulted in a 9.1 per cent. reduction of cement and water used and a net saving of \$116,000. Although, at 28 days' age, the compressive strength of the concrete, at an average of 4,340lb. p.s.i. was 410lb. p.s.i. less, it was still 90lb. p.s.i. above the established average design strength of 3,450lb. p.s.i. Lesser savings in cement would have yielded progressively higher strengths. With these advantages in mind and the possibility of reducing the occurrence of "cold" joints, the use of a water-reducing, retarding agent for the mass concrete of the dam was being considered.

From the mixers the concrete is discharged into three wet batch hoppers totalling 65 cu. yd capacity, which, in turn, discharge to 12 cu. yd. capacity rail transfer cars delivering to the 12 cu. yd. buckets of the two 50-ton capacity cableways. The latter are placed one above the other. Both are able to serve all areas of the site, having travelling head and tail towers on opposite sides of the canyon. Some 2,050ft. long, the upper, main cableway is 4in. in diameter and is thought to be the largest and fastest of any such installation in current use. It weighs 38lb. per ft., has a strength of 880 tons, operates at a tension of 320 tons and has a hoist speed of up to 700ft. per min. A smaller 25-ton capacity cableway is also being used, principally to place concrete from 8 cu. yd. buckets in the power plant structure.

Pre-cooling of the concrete, to achieve placing temperatures of 50 deg. F. or less, is carried out at Glen Canyon by sprinkling and submerging the coarse aggregate with chilled water on their way to the batching bins, where it is further cooled by refrigerated air blasts, by cooling the mixing water and by the addition of chip ice to the mix. Post-cooling in the dam is effected by the circulation of cool water through a system of pipes embedded in the concrete blocks. Some 950 miles of piping, in all, will artificially cool the concrete to between 40 and 50 deg. F. In general, concrete curing will be by the use of water, though in certain cases membrane curing compound will be used.

It is expected that, in all, about 3,000,000 bbl. of cement, 220,000 short tons of pozzolan and 29,000,000lb. of reinforcement will be needed for the 5,192,000 cu. yd. of concrete being placed in the dam, power plant, tunnel lining, etc.

Spillway Tunnels

In addition to the water flow through the power house turbines, which will be conveyed to each generating unit through a 15ft. steel penstock embedded in the dam, two spillway tunnels, one on each side of the dam are provided, utilising part of the diversion tunnels, to pass flood waters. The entrances to these tunnels are about 600ft. upstream from the dam and the crests of the entrance channels are controlled by two 40ft. by 52ft. 6in. radial gates for each tunnel. Designed by the Bureau of Reclamation, these segmental sluice gates were fabricated by Vereinigte Oesterreichische Eisen und Stahlwerke A.G. at Linz, Austria. Both tunnels are concrete lined and have transitions from the crests to 41ft. diameter sections. Ski-jump buckets at the downstream ends of the spillways will raise the water so that it will be deflected into the centre of the river channel. Although the entrance channels of the spillway tunnels will be

unlined, the high discharge velocities of the water, which will reach 162ft. per sec., require that the elbow areas have a special finish to minimise cavitation.

Closure of the diversion channels will be effected by plugs at times appropriate to the flow of the river and the level of the water in the reservoir vis-a-vis the use of the permanent river outlets to supply the minimum downstream release of water.

Located on the left abutment, the latter will be used when the power plant is not operating. Their capacity is 15,000 sec. ft. at minimum water surface elevation and they consist of four 96in. steel pipes controlled by hollow-jet valves. There are four ring-follower gates for emergency closure. The intakes are at an elevation 10ft. above the estimated 100-year silt level and are protected by concrete trashracks on the upstream face of the dam.

The power house will be about 470ft. downstream from the axis of the dam and will be a 665ft. long by 113ft. wide by 150ft. high building consisting of structural steel frame with reinforced concrete enclosure walls.

River Bridge

A feature of the Glen Canyon project is the Colorado River Bridge which has been built across the gorge by Kiewit-Judson Pacific Murphy, of Emeryville, California, at a cost of \$4,139,277. Instead of building a temporary access structure across the canyon, the Bureau of Reclamation have contributed with the State of Arizona and the Bureau of Public Roads to the cost of a permanent bridge, which is located at a height of about 700ft. above river level, 865ft. downstream of the dam. With an overall length of 1,271ft. including abutments, the bridge has a single span steel arch, having a rise of arch of 165ft. and a length of 1,028ft. Claimed to be the highest and second longest of its type in the United States, it incorporates a reinforced concrete deck for a 30ft. roadway and two 4ft. wide sidewalks. Support for the entire structure is provided by skew-backs constructed into the vertical wall of the canyon where geological joints were at a minimum, additional anchorage being given by pressure grouted steel dowels which penetrate 30ft. into the rock.

The total cost of construction of the Glen Canyon project, without power transmission facilities, has been estimated at \$300,000,000. Of the estimated 80,000,000 man-hours required for the completion of the project, about 27,000,000 will have been needed at the dam site and the remainder for the production and transportation of materials and administration.

£16M. FOR COLONIAL DEVELOPMENT

Large Grants For Education

Grants made under the Colonial Development and Welfare Act during June amounted to £3,370,646 and bring the total approved for schemes to benefit Britain's overseas territories during the first half of 1961 to £16,153,812.

Nearly a quarter of the 87 grants, including nine for research, approved during June were for educational facilities. Of these grants which amounted to £1,250,048, Makerere College, Uganda, benefited by £551,354, including a grant of £250,000 to replace Mitchell Hall (which houses 153 students in the original school buildings erected in 1923) by a new hall.

16 Primary Schools

Largest of the grants for education was £290,075 to British Guiana towards the cost of providing 16 new primary schools and improving existing schools.

Other major grants made during June included: £500,000 for Malta's Aids to Industries scheme; £215,854 for road improvement works in Fiji; £118,562 towards the cost of the Jesselton/Paper road in North Borneo, and £108,000 for land acquisition and resettlement in Nyasaland.

FOR THE DIARY

AUG. 20
Midland branch of the Contractors' Mechanical Plant Engineers. Treasure trail.

AUG. 24
Yorkshire branch of the Contractors' Mechanical Plant Engineers. Visit to John Smith's Brewery, Tadcaster.

AUG. 29
Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading. 7.30 p.m. "Plant Insurance," by T. Kemp.

AUG. 31
Plant exhibition and demonstration arranged by the North West branch of the Contractors' Mechanical Plant Engineers, Territorial Army Test Ground, Aigburth, Liverpool.

SEPT. 5
Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

International Packaging Exhibition, Olympia, London. Sept. 5-15.

Meeting of the London branch of the Institution of Plant Engineers, Royal Society of Arts, London. 7 p.m. "Corrosion—Prevention by Cathodic Protection" by R. A. Lowe and J. S. McLachlan of Corrosion and Welding Engineering Ltd.

SEPT. 7
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

SEPT. 18
International Conference on Timber Engineering at Southampton University. Sept. 18-23.

SEPT. 21
Meeting of the Yorkshire branch of the Contractors' Mechanical Plant Engineers. Visit to Thruxton Reservoir.

SEPT. 26
Western branch of the Contractors' Mechanical Plant Engineers. Supper dance at Ashton Court County Club.

Ninth annual residential study course of the Institution of Municipal Engineers—South-Western District, at Dillingham House, Ilminster, Somerset, Sept. 26-28.

SEPT. 27
Meeting of the South Wales branch of the Contractors' Mechanical Plant Engineers, Dunraven Arms Hotel, Bridgend. 7.30 p.m.

SEPT. 28
Meeting of Sheffield branch of the Institution of Plant Engineers, Grand Hotel, Sheffield. 7.30 p.m. "Industrial Relations" by W. Carron, president, Amalgamated Engineering Union.

SEPT. 29
Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham. 7.30 p.m. "The Planning, Application and Maintenance of Industrial Lighting" by V. Heydon, manager, Lighting Division, G.E.C.

OCT. 3
Conference of the Association of Public Lighting Engineers, Scarborough. Oct. 3-6. Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

OCT. 4
International Design Congress to be held by the Council of Industrial Design at the Royal Society of Arts, London. Oct. 4-5.
Annual conference and exhibition of the National Society for Clean Air, Dome, Brighton. October 4-6.

OCT. 5
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.
Convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers, London.
Meeting of the Institution of Structural Engineers, London. Presidential Address.

OCT. 9
Annual conference of the Institute of Quarrying, Palace Hotel, Torquay. Oct. 9-13.
Meeting of the Yorkshire branch of the Contractors' Mechanical Plant Engineers. Ladies Night.

OCT. 10
Annual dinner of the Contractors' Plant Association, Dorchester Hotel, London.

OCT. 11
Meeting of the Glasgow branch of the Contractors' Mechanical Plant Engineers, More's Hotel, Glasgow.

OCT. 18
Forty-sixth International Motor Exhibition, Earls Court, London. Oct. 18-28.

OCT. 19
Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

OCT. 20
Annual dinner of the Yorkshire Federation of Building Trades Employers, Queens Hotel, Leeds.
Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London. 10.30 a.m.

OCT. 25
Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

OCT. 31
Annual dinner of the British Road Tar Association, Grosvenor House, London.

NOV. 2
Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

NOV. 7
Meeting of the Manchester and District branch of the Contractors' Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.
Institution of Civil Engineers, London. Presidential Address.

NOV. 10
Scottish Motor Exhibition, Kelvin Hall, Glasgow. Nov. 10-18.
Dinner dance of the Yorkshire branch of the Contractor's Mechanical Plant Engineers.

NOV. 13
Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London. Nov. 13-18.

NOV. 15
Building Exhibition, Olympia, London. Nov. 15-29.

NOV. 21
Annual banquet of the National Federation of Roofing Contractors, Grosvenor House, London.

NOV. 22
Annual general meeting of the National Federation of Roofing Contractors, London.

NOV. 30
Annual dinner and dance of the Institution of Water Engineers, Park Lane Hotel, London.
Annual dinner and dance of the Derbyshire branch of the Contractors' Mechanical Plant Engineers, Victoria Restaurant, Chesterfield.

DEC. 1
Winter general meeting of the Institution of Water Engineers, at Institution of Civil Engineers, London.

DEC. 4
Royal Smithfield and Agricultural Machinery Show, Earls Court, London. Dec. 4-8.

DEC. 7
Annual dinner and dance of the Midland branch of the Contractors' Mechanical Plant Engineers, Town Hall, Sutton Coldfield.

DEC. 8
Federation of Master Builders' London Region "Ladies Night," Grosvenor House, London. 6.30 p.m.

DEC. 14
Stag dinner of the Yorkshire branch of the Contractors' Mechanical Plant Engineers.

DEC. 20
The Institute of Sewage Purification—Metropolitan and Southern Branch symposium on the treatment of industrial and sewage sludges at Friends House, Euston Road, London, N.W.1.



This clear-span roof is claimed to be the second largest in the country. It covers the vehicle despatch area of the new Savage's Mothers Pride bakery being built near Coventry, and consists of steel girders which extend 130ft. between heavy steel pillars into the ridge without any central support. The main contractors for the £600,000 building are George Wimpey and Co., Ltd. Plans are by R. K. T. Taylor

PLANT AND MACHINERY WANTED—FOR SALE—FOR HIRE

(Continued from page 549)

C R A N E S F O R H I R E.
 15cwt. GM. Neals Fully Mobile Diesel Cranes, 18ft. Straight and 20/40ft. Telescopic Jibs.
 15cwt. Neals K15 Self-propelled Diesel Cranes, 15/20ft. Straight Lattice Jibs.
 2-ton Neals Diesel Mobile Cranes, on pneumatics, 28/30ft. Straight Lattice Jibs.
 3-ton Neals NMS Diesel Mobile Cranes, on pneumatics, 30/35ft. Straight Lattice Jibs.
 3-ton Jones Diesel Crawler-mounted Cranes, 30/40ft. Straight Lattice Jibs.
 4-ton Jones KL44 Diesel Crawler Cranes, 30/45ft. Straight Lattice Jibs.
 4-ton Jones KL44 Diesel Mobile Cranes, on pneumatics, 30/45ft. Straight Lattice Jibs.
 Smith 21cwt. 10ft. 10-ton capacity Crawler-mounted Cranes, 70ft. Box Lattice, with 10ft. Fly Jibs also available.
 5-ton Coles Mk. VII Diesel Lorry-mounted Cranes, various length Jibs.
 10-ton Coles Diesel Lorry-mounted Cranes, various length Jibs.
 Hire your Cranes at most competitive rates from the Crane Specialists:
MOORE'S PLANT, LIMITED.
 105-129 Markfield Road, Tottenham, N.15.
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C R A N E S F O R S A L E.
 Neal 15cwt. Portable and Mobile.
 Neal 2-ton Mobile.
 Neal 4-ton Mobile.
 Neal 6-ton Mobile.
 Smiths 5-ton Mobile.
 Coles 15-ton Mobile.
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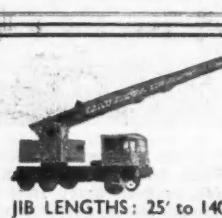
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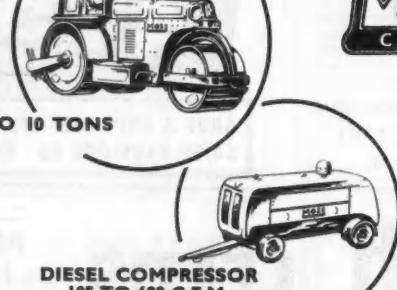


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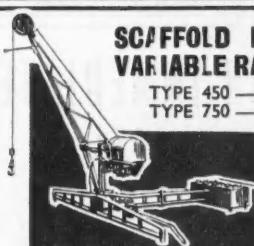
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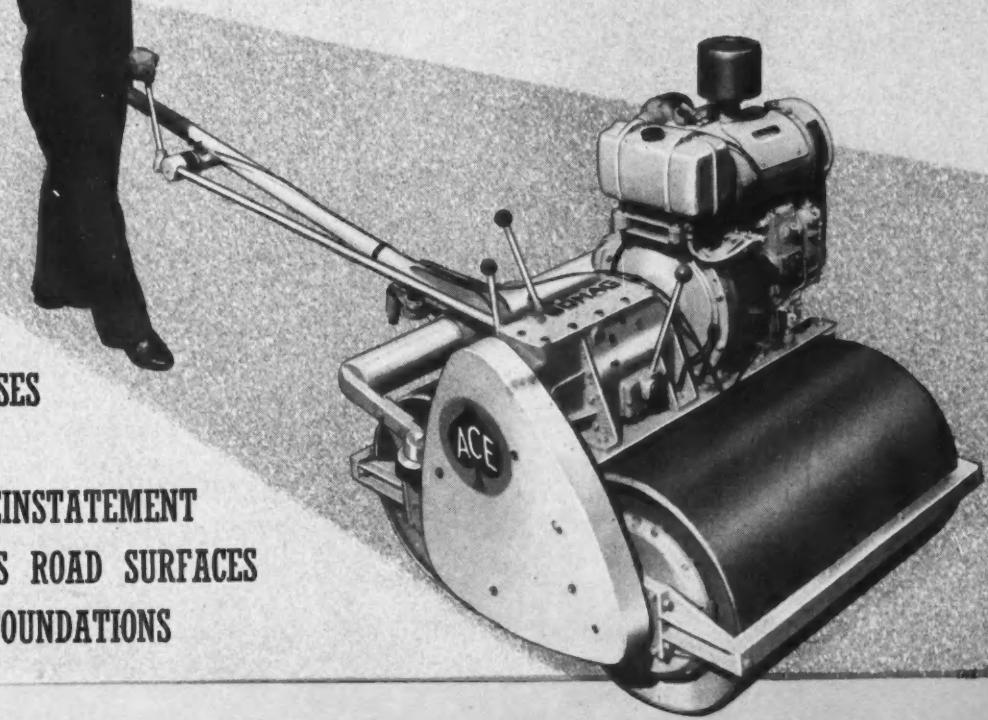
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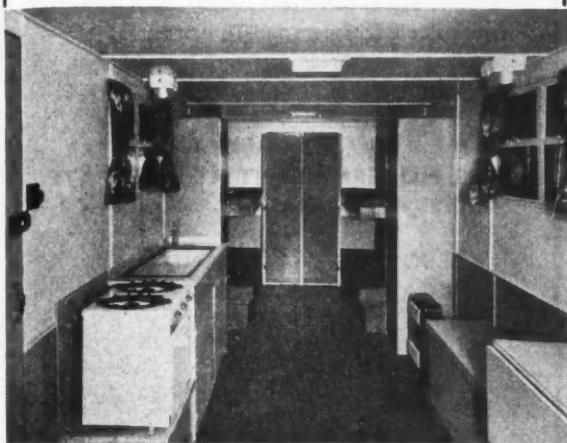


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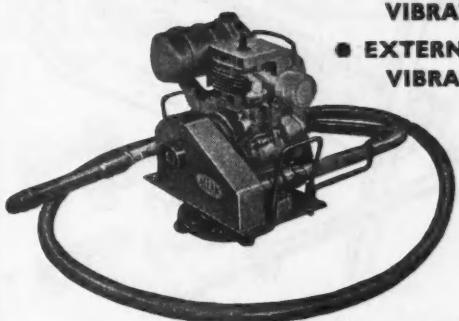
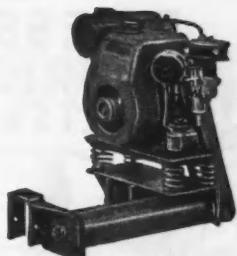
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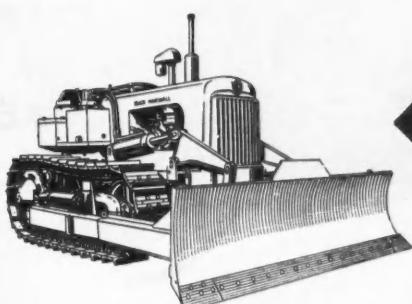
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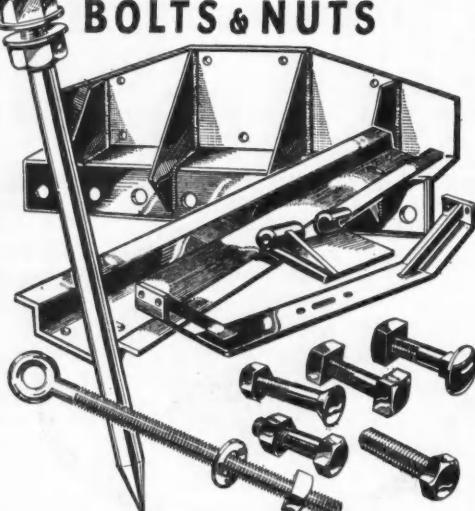
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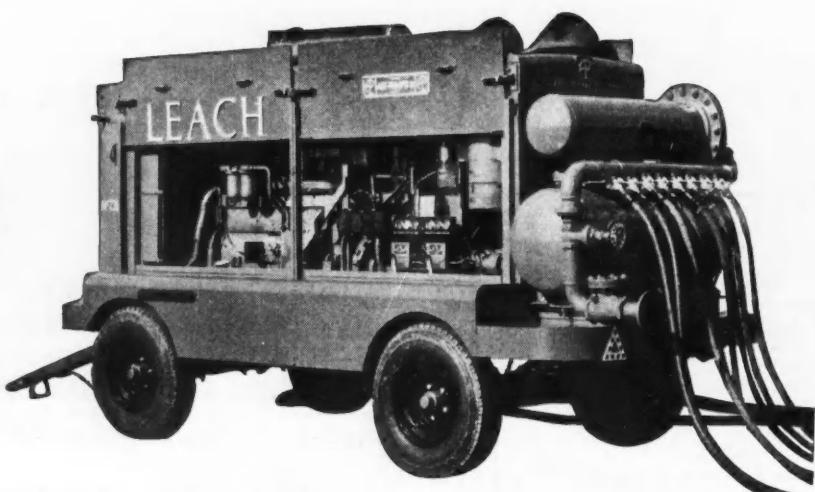
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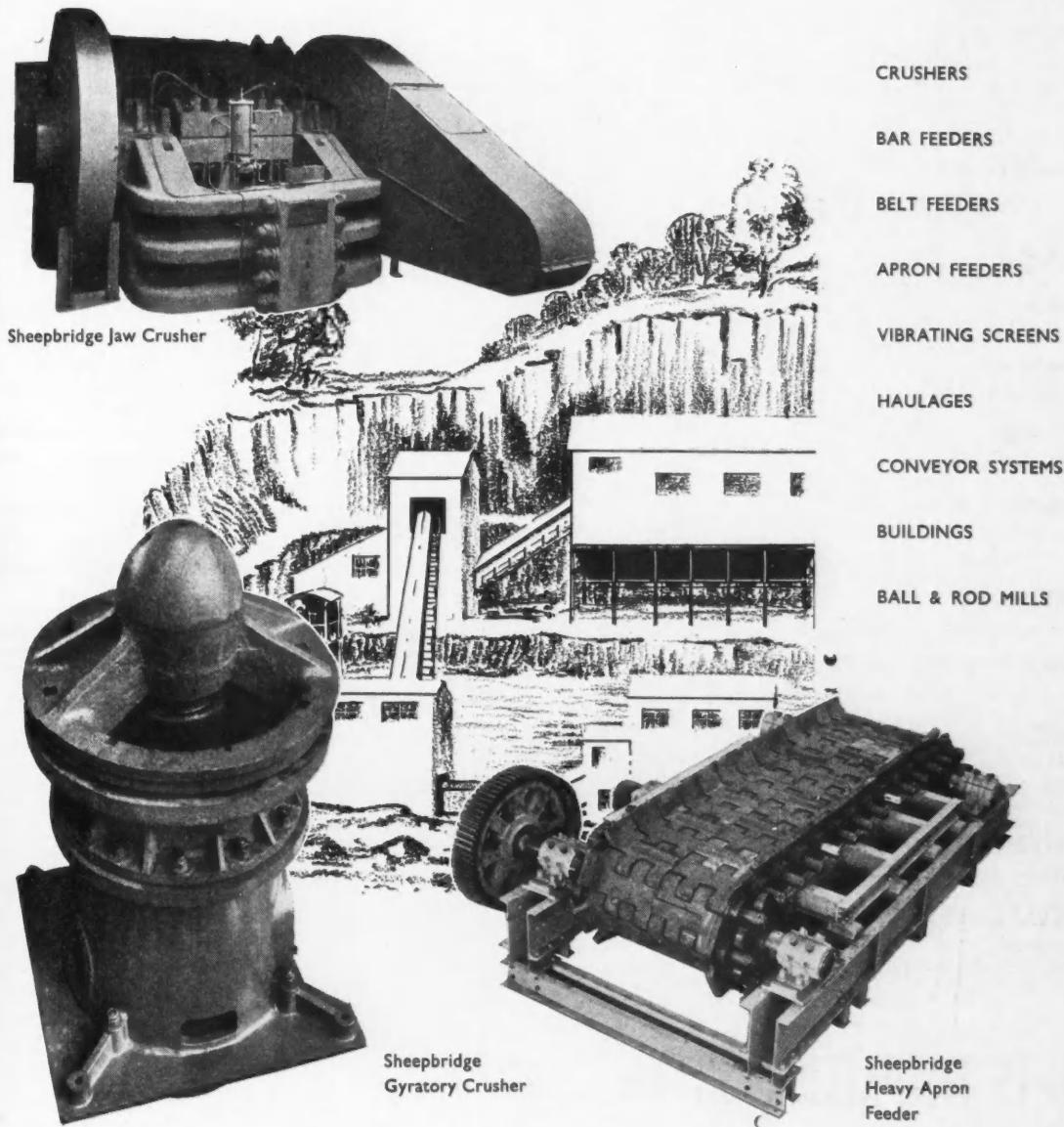
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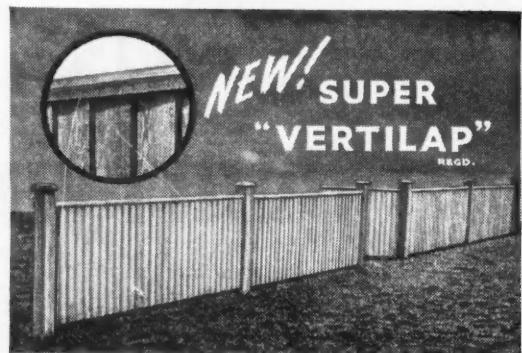
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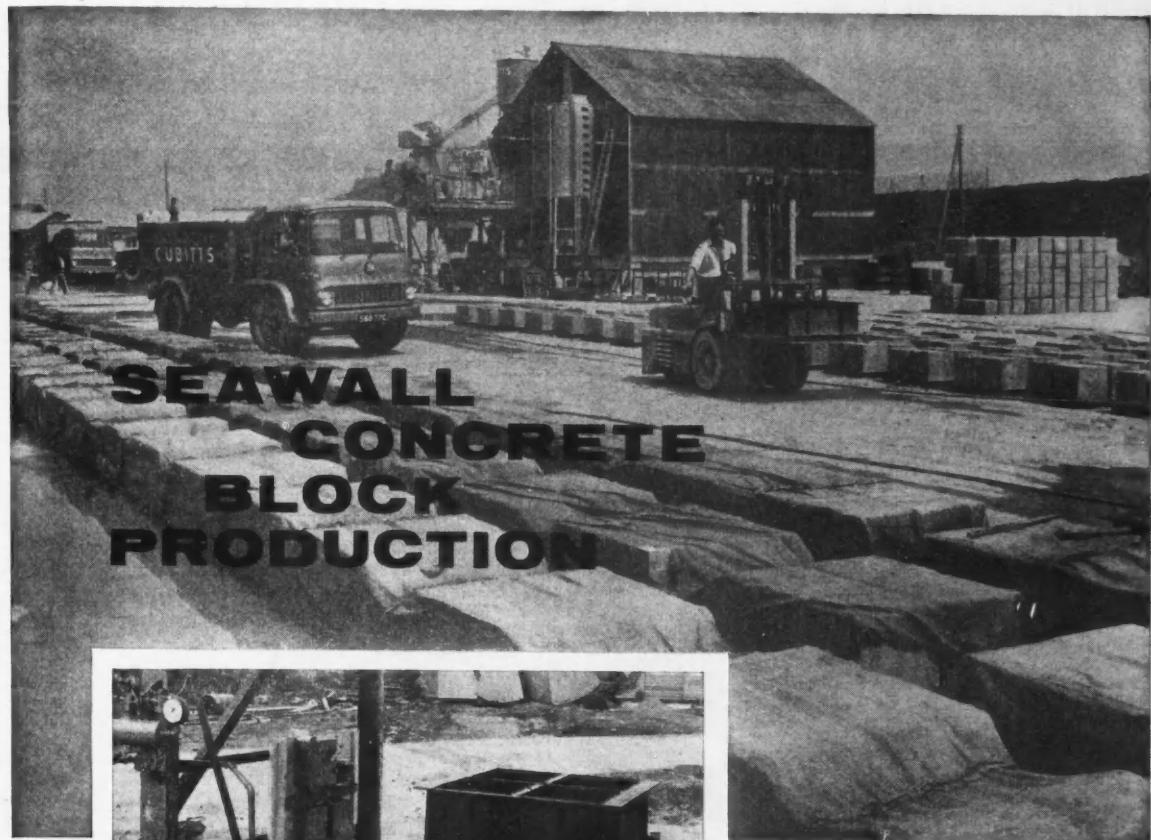
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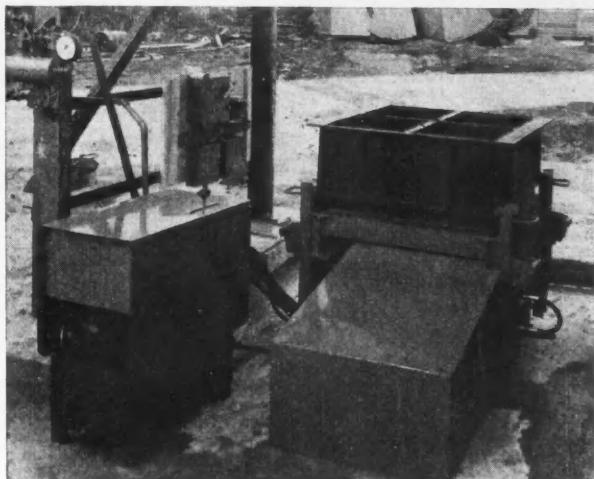
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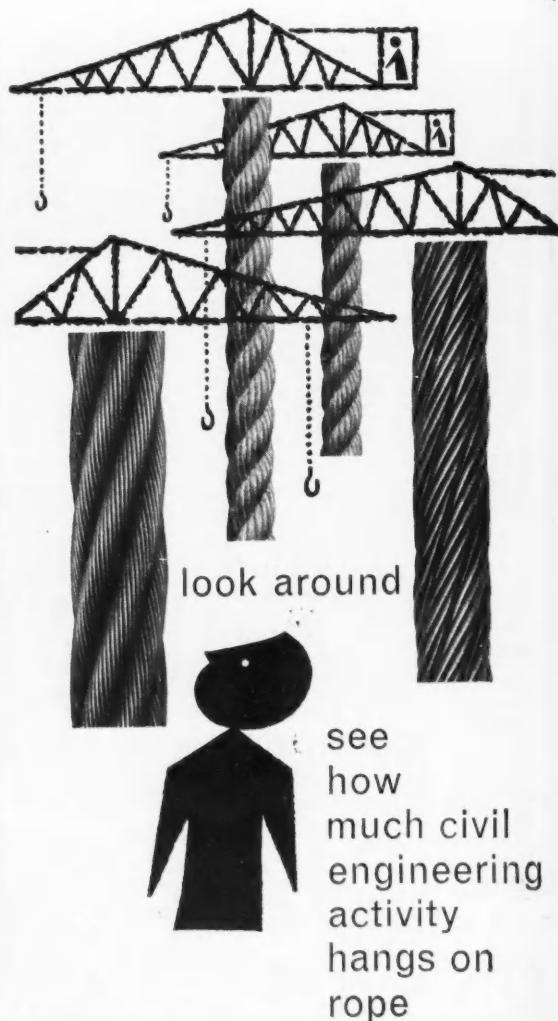


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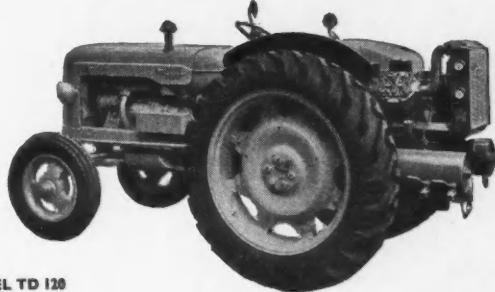
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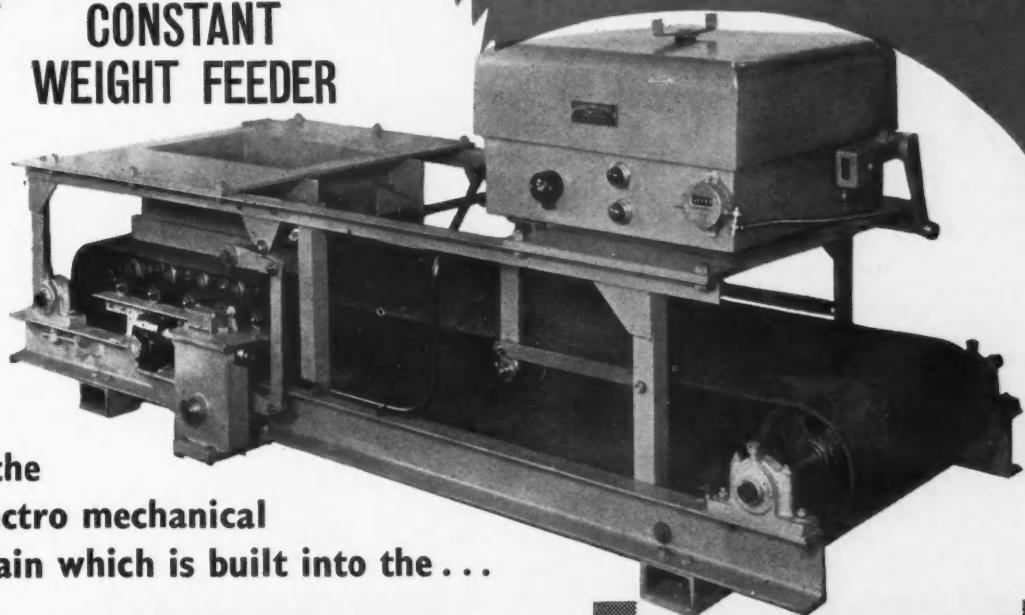
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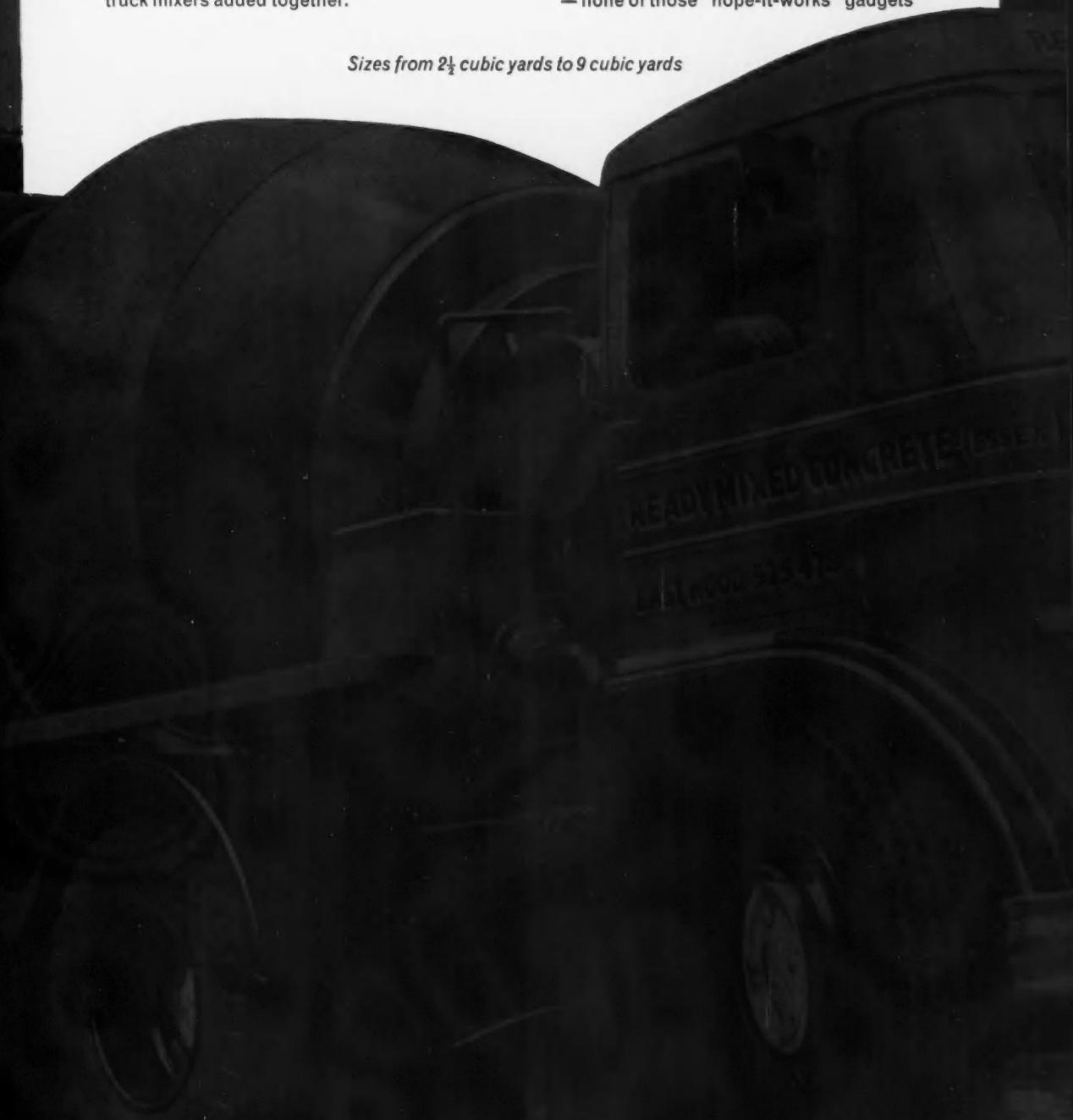
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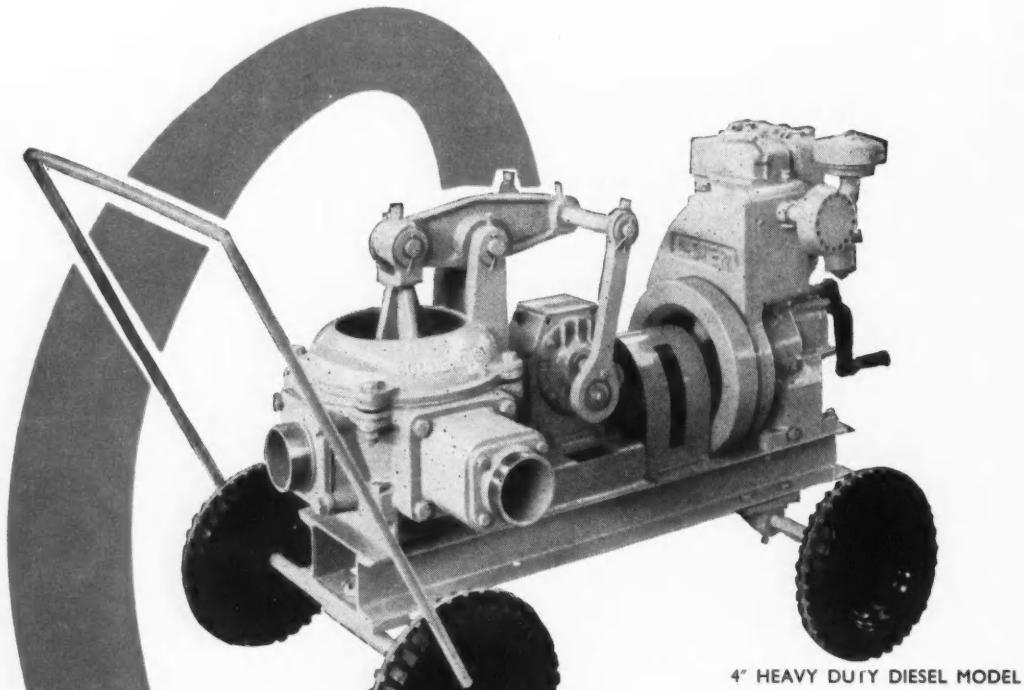
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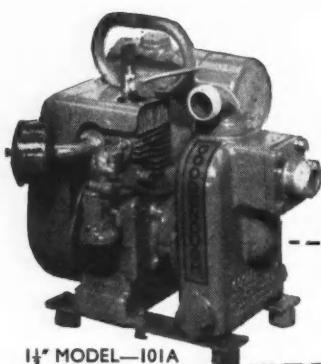
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CONTRACTORS' GUIDE TO AGGREGATES

MID-WALES

HENRY AND SONS LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kington 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

MONMOUTHSHIRE ASSOCIATED QUARRIES LTD., Head Office: 38 1/2/21, Road, Newport, Mon. (Tel.: Newport 5831/2/21.) Suppliers of all grades of concrete aggregates, road metal, paving stones, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

WHITECLIFF QUARRIES AND BRICKWORKS LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Wellington. (Tel.: 961.) Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

JOHNSON, P. C. H., LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel roadstone, washed sharp and fine sands.

ST. IVE'S SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Cambs. (Tel.: St. Ives 744/2/3/4 and Coney Weston 12.) Pits at St. Ives and Knettishall, near Thetford.

NETTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Netterton. Concrete aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

HAYBROOK, E. W., LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S., building sand, hardcore.

JOHNSON (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel.

DUSTON STONE QUARRIES, LTD., New Diston, Northampton. (Tel.: Brixworth 278 and 298; Diston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.

FERRERSAND AGGREGATES, LTD., Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 3354/5.) Largest producers in the county of aggregates of high quality concrete aggregate to B.S.S. Supplies throughout Northamptonshire and adjoining counties.

GIBSONS, F. B., AND SONS LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Proprietor Andrew's Garage), Kettton, near Stamford. (Tel.: Ketton 206.) Hardcore, crushed stone, top soil, silica clay. Quarries at Kettton.

HACKNESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Mortar sand (lime/sand mortar). Prompt deliveries.

HORN BARGE AND LIGHTER CO., LTD., Market Drayton, Peterborough. (Tel.: 5534/5.) and Shire End Quarries, Winsford, near Peterborough. (Tel.: Winsford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

PETERBOROUGH (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandylands, Peterborough. (Tel.: Market Deeping 2358.) Elliptical pits supplying all grades of hardcore and broken stone. Also "Wetcrete" at Winsford. All grades gravel and sand at Market Deeping.

POLLARD, C. AND SON (TALLINGTON), LTD., Vale House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

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CAYWOOD, WHARTON AND CO., LTD., Pistyll Gwyvr Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-y-lal 27.) Crushed limestone and tared macadam. All grades.

NORTH WALES

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GWLCHMAB GRANITE QUARRY, Anglesey. Proprietors: The North Wales Construction Co., Ltd. (Tel.: Gwylchmab 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete.

PENMAENMAWR AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr (Tel.: 2256/8), and at Trevor (Tel.: Clynnogfawr 223.) Caernarfonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated and uncoated.

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TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

NOTTINGHAMSHIRE

AIZLEWOOD, DOUGLAS E., Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone; all grades of washed gravel and sands.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

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HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme Pierrepont, Colwick, Bleasby and Newark. Other quarries throughout the country—deliveries in 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads or specialities. Combined plant capacity 20,000 tons per day.

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SALISBURY AND WOOD LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

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BENRY AND SONS LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

CURTIS, J. AND SONS LTD., Botley Works, Oxford. (Tel.: 4108/1/2/3.) Sand and all grades of washed aggregates. Plant at Radley, near Abingdon. (Tel.: Abingdon 441.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

HALL AND CO., LTD., Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

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KETTON STONE CO. (Prop.: Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay.

PETTERBROUGH QUARRIES LTD., Sandymead, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Quarry at Greetham, all grades of broken stone and hardcore. (See also Northamptonshire.)

POLLARD, C. AND SON (TALLINGTON), LTD., Wall House, Langtoft, Peterborough. (Tel.: Peterborough 2140.) (See Lincolnshire for details.)

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OLD RADNOR TRADING CO., LTD., Kington (Tel.: 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington. (Tel.: 961.) Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

TRENTHAM GRAVEL CO., LTD., Lordship Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

SOMERSET

ASHAM QUARRY CO., LTD., Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarmac and luminous macadam to B.S. Ex quarry or delivered.

DANGERFIELD, F. J., AND CO., LTD., 216A Finchley Rd., London, N.W.3. (Tel.: HAMpstead 8044/8.) For all road aggregates, kerbs, sets. (See London.)

HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting and building sand.

WALDRIDGE, JOHN, LTD., Shepton Mallet. (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

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AMALGAMATED AGGREGATES LTD., 97 Cowbridge Road East, Cardiff. (Tel.: Cardiff 25249.) All sizes crushed and graded aggregate, dry or washed. High calcium or dolomitic limestone, also all grades coated stone. Quarries near Newport, Cardiff, Bridgend, Pontypridd.

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SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

SOUTH WALES SAND AND GRAVEL CO., LTD., Head Office: P.O. Box 8, Beaumaris Buildings, Swansea. (Tel.: Swansea 53071.) Sand and gravel merchants, builders' merchants. Pennant Quarry owners, slag, hardcore, sand, topsoil, filling, graded chinkers, filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

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GIBSONS, F. B., AND SONS LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/2383.) (See Lincolnshire for details.)

CONTRACTORS' GUIDE TO AGGREGATES

STAFFORDSHIRE

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MANCHESTER OFFICE: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)
KEVINS SAND & STONE LTD., Oakamoor, Staffs. (Tel.: Oakamoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

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SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

SHIRE OAK GRAVELS LTD., Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

TCRN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggin.

TRENTHAM GRAVEL CO., LTD., Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pigott Gate 304/5.) All sizes crushed or natural washed gravel. Twin-washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

WARDLOW LIMESTONE, LTD., Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) Graded limestone for all purposes. Ground limestone.

WINDMILL SAND AND GRAVEL QUARRIES, LTD., Cannock Road, Wolverhampton. (Tel. 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

SUFFOLK

ALRESFORD SAND AND BALLAST CO., LTD., Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Suffolk area pits at Bures and Stoke-by-Nayland. All grades washed aggregate sand; also hoggin.

GARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leiston. (Tel.: Colville 1226/7/8, or London, V/Giant 2530.) (For details, see Leics.)

DICKERSON, M. (CONTRACTORS), LTD., Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) (See Cambs.)

HALL AND CO., LTD., West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

MACLAREN BROS. (KENNETT), LTD., Station Road, Kenett, Camb. (Tel.: 33574.) (See Camb.)

S.T. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4, Coney Weston 12 and Halstead 2323.) Pits at St. Ives, Knettishall, near Thetford, and Gosfield, near Halstead.

THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Norfolk.)

WEBB, G., CAMBRIDGE, 35 Magrath Av., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Camb.)

SURREY

OFF. HARRY A., LTD., Buckhurst Hill, Cheapside, Ascot, Berks. (Tel. 1026/7.) (See Berkshire.)

DANGERFIELD, F. J. AND CO., LTD., 261 Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: 2040.) Limestone, Sand and Ballast. Pit, Thorpe, nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

HALL AND CO., LTD., Victoria Wharf, Croydon. (Tel.: Croydon 4141.) Other pits: Deptford, Croydon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Send and Redhill. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARRIS, M. P., AND CO., LTD., Kingston Road, Leatherhead, Surrey. (Tel.: 3497.) (See Sussex.)

JAMES AND CO., LTD., 20 Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, building & bulk excavation. (Tel.: Slough 20361/213.)

LONDON BALLAST CO., LTD., (Tel.: Paddington 50643, 155A Porchester Terrace North, Paddington, W.2.)

SURREY

MARCO (AGGREGATES), LTD., Pit: Norlands Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.

MARCO CROTON, LTD., Hampton Road, West Croydon. (Tel.: THORnton Heath 4236/7/8.) All building and road aggregates.

TWICKENHAM GRAVEL CO., LTD., Government Road, Ash Vale. (Tel.: 2349.)

WELES, LTD. AND SON, LTD., Builders' Merchants, Glands Road, Leatherhead. (Tel. 3018/9.) Sand aggregates, hardcore, cement. Clinker block manufacturers.

WINTON, WM. R., LTD., Send, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggin and ashes. Clinker block manufacturers.

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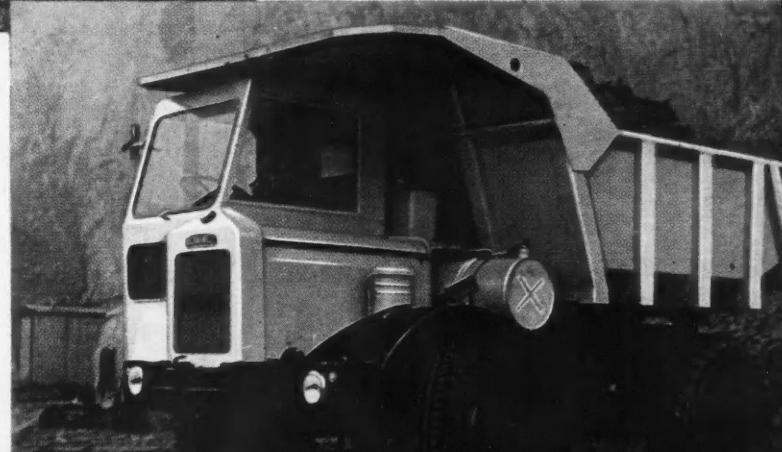
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